

AMERICAN BEE JOURNAL

DECEMBER

1912

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We Hug the Things We Love

This is the picture which took first prize in our competition of Photographs, which closed Nov. 1. It is the same swarm as shown in our previous issue, of which several studies were taken by Mr. Edward F. Bigelow, of Arcadia, Sound Beach, Conn. See his article, page 338, November number.

American Bee Journal



PUBLISHED MONTHLY BY

American Bee Journal

1st Nat'l Bank Bldg. Hamilton, Illinois

IMPORTANT NOTICE

THE SUBSCRIPTION PRICE of this Journal is \$1.00 a year, in the United States of America and Mexico; in Canada, \$1.10; and in all other countries in the Postal Union, 25 cents a year extra for postage. Sample copy free.

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Nemaha Co., Kan., July 15. A. W. SWAN.

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Ontario, Canada, July 23. CHAS. MITCHELL

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Washington Co., Va., July 23. N. P. OGLESBY.

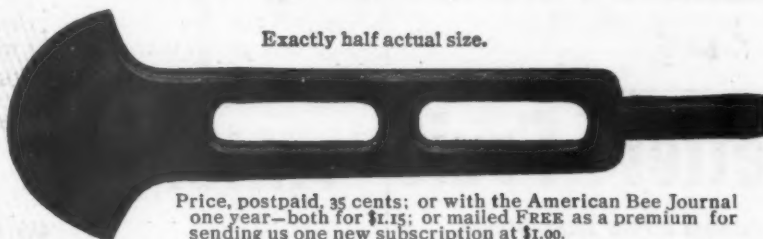
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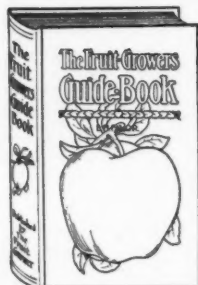
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American Bee Journal, Hamilton, Illinois.



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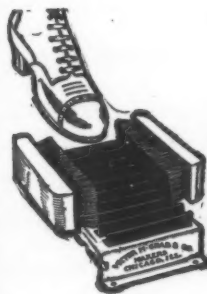
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(Entered as second-class matter at the Post-Office at Hamilton, Ill., under Act of March 3, 1879.)

Published Monthly at \$1.00 a Year, by American Bee Journal, First National Bank Building

C. P. DADANT, Editor.
DR. C. C. MILLER, Associate Editor.

HAMILTON, ILL., DECEMBER, 1912

Vol. LII---No. 12

EDITORIAL COMMENTS

How Far Can Swarms Travel?

T. W. Swabey, in the British Bee Journal of Sept. 26, asks the above question and quotes a previous writer as authority for the statement that a swarm traveled more than 10 miles, though having settled on a tree about a mile distant from its final abode.

In Vol. XVIII of the American Bee Journal, page 186, Q. C. Jordan reports having followed a swarm 6 miles.

In Vol. XX, page 634, James Heddon says that a swarm alighted on a ship in the middle of Lake Michigan. The writer holds that they will go 25 to 50 miles.

In Vol. XXV, page 55, H. G. Rogers ridicules the 25-mile flight, and says: "We will soon have them crossing the Atlantic."

Eugene Secor, a very reliable writer, in Vol. XXV, page 230, mentions runaway swarms as going 8 to 10 miles, to his knowledge.

G. M. Doolittle holds that bees will readily go 5 to 9 miles for honey. Why not a swarm, for a home?

The flight of bees is variously estimated at from 10 to 60 miles an hour. The latter speed was given after having turned bees free from a running train, but Cheshire very properly says that this furnishes "no evidence of their velocity when unaided, since the train carries the air lying in its neighborhood along with it, as leaves and paper scraps frequently make clear." His conclusion is that the flight ranges between 2 and 16 miles per hour, depend-

ing upon the load and nature of the errand.

When in the enthusiasm and energy of his teens, the writer several times attempted to follow a runaway swarm, but the result was invariably, after a perspiring run over fields, hills and well-nigh impassable ditches, to be stopped breathless and discouraged against a fence or on the edge of a pond, while the bees went on; their enticing roar finally dying in the distance. The Mississippi River is but a mile and a half away, and at this point a mile wide, but he never succeeded in following them to its shores.

However, swarms have often been known to cross it to reach the woods on the other side. But an experienced bee-keeper, who lived on the opposite shore, frequently told us that such swarms were almost invariably queenless. Very probably the queen accompanying the swarm was unable to sustain her flight, and was perhaps dazzled by the sunlight reflected upon the water.

From all this we conclude that it is useless to try to establish an exact limit to the possible flight of a swarm, and that this question is not to be settled any more positively than the question we might ask some inveterate angler: "What was the weight of the largest fish ever caught?"

The Iowa State Meeting

The bee-keepers of Iowa are urgently requested to attend their State convention, which will convene at Des Moines,

in the Club Room of the Savary Hotel Dec. 12 and 13, 1912, as announced in the November number, page 327.

It is for the bee-keepers of each State to decide, after earnest and intelligent discussions, whether they want laws concerning bee-diseases, whether they want courses of study in their industry at the Agricultural Colleges, and also what recognition ought to be given to the production of honey in the State and County Fairs. It is also time for our State Associations to be legally incorporated and endowed by the States in a way similar to the incorporation and endowment of the State Horticultural Associations. All these things may be done, if we take an interest and show our wants.

The past few years' work has shown that there is no difficulty in getting recognition from the Legislatures, Colleges or Agricultural Fairs, if we show ourselves and claim our rights.

If a concerted action upon the suggestions above given is successful, we will get the following results:

1. Greater information for the public on the uses and value of honey, hence larger and easier sales.
2. Correct information concerning the usefulness of bees in the fertilization of flowers and their harmlessness in the puncturing of sound fruit.
3. Greater protection to the pursuit, in the combat against contagious diseases and others.
4. Increase of information among the bee-keepers themselves.

These things are worth striving for, even if we do not give consideration to the pleasure of exchanging views, making new and pleasant acquaintances and renewing old ones. The bee-keepers are almost as gregarious as their bees, and would often meet were it not for the distance they usually have to

American Bee Journal

travel to get together. Make an effort, dear reader, and attend this meeting. We know you will never regret it. There ought to be 300 Iowa bee-keepers at this convention, for Iowa is one of the leading States in the Union, and if it has remained in the background it is not owing to lack of information, but lack of centralization of effort.

"Queen-Rearing Pointers"

The reader will find in this number an article under the above heading, from the pen of Mr. Frank F. France, who has not only practiced bee-culture with his father, but has also worked in California with practical apiarists, thus getting double drill, in addition to his own ingenuity.

We cannot better recommend his method than by giving our testimony of experience in this line. During the first of his queen-rearing practice, in the '60's, Grandfather Dadant had noticed the desirableness of rearing queens in strong colonies, and the better quality of such queens.

It was with us as with the Frances; we did not like to rear queens in baby nuclei. A compact brood-nest of some size was needed. Two to four short frames proved better than one to two long ones, especially as the Langstroth and Quinby frames are of much greater length than height. A frame of either kind, divided into two parts, placed side by side made a much more compact brood-nest than in full length. But the handling of an odd frame is undesirable unless it can be originally taken from and afterwards returned to the full-frame hive.

The first divisible frames that we used were as cut below. The frame

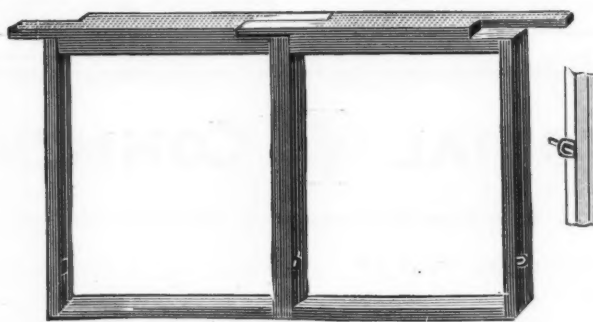
provided with dummies, etc. But after making the exchanges and shifting of frames common in queen-rearing during an entire summer, we often found ourselves in the fall with a number of tongue half-frames without the corresponding parts in the same nucleus, and *vice versa*. It is usually necessary to break up a nucleus in the fall—even if it is quite strong—and unite it with a full colony. For this purpose all those half frames should be interchangeable in order to double them back to original size. This gave rise to a slightly different style of divisible frame, the invention of David & Guillet, of Savoie, shown herewith. These frames having

only with some such method as the France method.

In mentioning all these points, the writer is speaking from an extended experience backed by good results.

Spanish - Needles an Incorrect Name

A short time ago we received from Mr. E. R. Root an enquiry concerning the plant popularly known in the Mississippi Valley as "Spanish-needles," which yields great quantities of honey of as golden color as the blossom itself. Mr. Root quotes Prof. Lovell, of Maine, and A. C. Miller in support of the statement that this name is a mis-



THE IMPROVED STYLE OF DIVISIBLE FRAME.

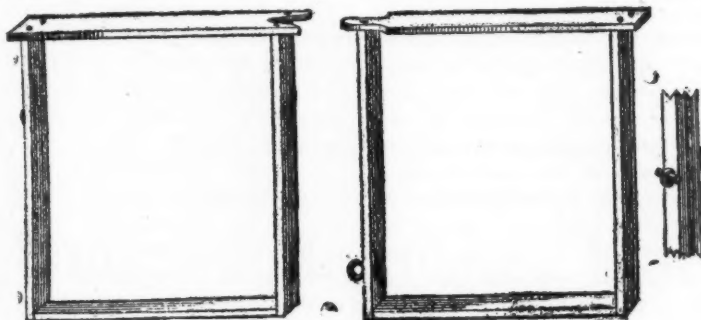
right and left shoulders, and hooks and eyes on both sides are interchangeable, so that any two of them can make a full frame. When the season is over any 4-frame nucleus in the yard may be easily inserted into a full colony, or several nuclei may be built into one in full frame shape. The little hives which have contained these nuclei are put away for another season.

On the other hand, one may happen to rear a number of good queens and

nomer. Close examination at this late date, when the plants are almost entirely dry, tends to indicate that the true Spanish-needle is the taller kind, *Bidens bipinnata*, devoid of yellow rays in the blossom, and supplied regularly with two awns or burs on the seed, while the real honey-producer is a short plant, not usually much over a foot in height, bearing bright yellow blossoms, and producing seeds with three awns or burs on a wedge-shaped seed. Those of our readers who live near the lowlands producing this honey-plant are requested to send us what information they have. We will later publish the decision of the eastern botanists concerning this plant. If their criticism is well taken, the plant should be popularly known as "bur-marigold."

Introducing a Queen to a Stubborn Colony

When a colony has been queenless for a considerable time, it sometimes happens that the bees of such a colony will not only reject any queen given them, but will destroy any queen-cell given, and refuse to start queen-cells from young brood furnished them. A case of this kind is reported in Bienen-Vater. The colony was yet strong in bees, and there was no weak colony with which to unite it. The queen was



THE FIRST DIVISIBLE FRAME.

was in two halves, one-half bearing a tongue in the top-bar and a staple in the side-bar, the other half had a notch at both top and side bar. We placed a number of these in our best breeding colonies early in spring, and we thus had combs with brood from our best queens to make our nuclei as early as desirable, in half-length hives

not need them all. These good queens in a good season may build up their nucleus into a strong colony. A 6-frame nucleus, well stocked with bees and brood, at the opening of the August flow, may be transferred into a large hive by doubling up the frames, and with a little help a good colony for winter will result. This can be done

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taken from another strong colony, and given caged to the queenless one. Then the two colonies were made to exchange places. The field-bees that had belonged to the queen, upon returning to their old location, found their own queen caged, and, of course, were kind to her. In the other hive all the home-bees being young and freshly made queenless, a queen-cell was readily accepted.

Care of Bees in Cellar

If bees are abundantly supplied with good honey, and are in the right kind of a cellar, they should need very little attention throughout the winter. Not every cellar, however, is a perfect cellar for wintering bees, and it should be the care of the bee-keeper to do the best he can to make up for all deficiencies.

First in importance is pure air. Try to have the air in the cellar as nearly as possible like the air outdoors. If you can do no better, open up at night some door, window, or other opening whenever this can be done without making the cellar too cool. Better the air too cool than too foul.

As to temperature, it is generally believed that at a temperature of about 45 degrees bees are most nearly in a dormant condition, and so will consume less stores, and the less stores they consume the longer they can stand confinement. But thermometers are not always correct, and it will be well for you to see at what degree *by your thermometer* bees will be most quiet, and then try to keep the cellar at that temperature.

Some have reported success in cellars much colder. And if the air is as pure as it is outdoors, why should not bees stand as much cold as outdoors? All the same, no matter how well bees may winter, say in temperature of 38 degrees, would they not winter at least a little better in a temperature that would require consumption of less stores?

On the other hand, it is becoming a common thing to have furnaces in cellars, making it impossible in some cases to keep the temperature down as low as 45 degrees. Again it is true that the bees will stand the change of temperature, if only the air is kept pure. In the cellar of the writer it is nothing unusual for the temperature to be 55 degrees or higher. But doors or windows are kept open enough so the air is much the same as outdoors.

The cellar should be kept dark, but again the matter of pure air makes a difference. Let the air become foul,

and then open a door or window, letting in air and light in the middle of the day, and thousands of bees will fly out of the cellar and be lost. But open the door in the evening as soon as it becomes dark, and in the morning when the air has become pure, the light may shine brightly into the cellar without disturbing the bees for some time. If the bees are in an inner room, the door from this inner to the outer room may generally be kept open all the time, and the outer door may often be kept open all day long without doing any harm, for the light in the inner room will not be very strong. The outer door may be kept more or less open, according to the needs of the case.

Mice should be poisoned, or trapped, or both. Persistent trapping with the little traps that can be had for 2 or 3 cents each will keep the trouble down to a minimum. Some screen the entrances to the hives with coarse wire-cloth, three meshes to the inch. If a mouse should thus be fastened into a hive, it is better to have one hive disturbed than several.

Bees will of course die through the winter, and more or less dead bees will be on the cellar floor. The beginner may be tempted to close the entrance with wire-cloth finer than three

meshes to the inch, so that neither mice nor bees can pass through. Don't think of such a thing. While that may keep the floor of the cellar clean, it is much more important for the health of the bees that the floor of the hive be kept clean. Let the dead bees fall upon the floor, and then sweep up the floor. It may not need sweeping possibly for the first two months, but later it will need sweeping every two weeks. It may or may not be advisable to clean out occasionally the dead bees that are on the bottom-board, according as they do or do not accumulate there.

In the Bee-Keepers' Review for September, Elmer Hutchinson states that he has wintered bees in a very dry cellar with a temperature of 34 degrees during almost the entire winter. Commenting upon it, the editor of *Gleanings in Bee Culture* states that in their experience a temperature of 34 degrees, in a bee-cellar, if long continued, has proven disastrous, and he asks whether the thermometer had been tested for correctness? There is another question which might be asked: In what part of the cellar was the thermometer kept? There is quite a difference in temperature in different parts of a cellar where many bees are kept, because their own warmth affects the temperature materially.

MISCELLANEOUS



NEWS ITEMS

More About European Foul Brood.—

The following was included in a letter recently received from Morley Pettit, Provincial Apiarist of Ontario, Can.:

"I find the article by Dr. Miller, on a question of smells, page 324, and would like to say a few words in reply to his question. The difference between Dr. Phillips and myself, which is a difference of experience rather than a difference of opinion, has often puzzled me. I have not yet had the opportunity of seeing European foul brood in an apiary across the line, but in every case which I have seen here, especially where it is new territory, there is always the pronounced odor which can be compared to nothing better perhaps than decayed fish. I well remember in 1909, when I was sent into Northumberland county to investigate the outbreak there, going with the local inspector, Mr. Warrington Scott Wooler, to a number of apiaries that were badly diseased.

"It was pitiful to see many apiaries where 30, 40, 50, and 60 hives were sitting out with scarcely any live bees left in them, and that decayed, offensive condition of the combs in every one. The weather was very warm and sultry, as it often is in June and on entering

the apiary the odor could be noticed quite distinctly in any part of the yard before any hives were opened. On lifting out the combs and holding them up for examination, it was almost sickening. The outward symptoms, apparent to the eye, as described in Dr. Phillips' bulletin, were all practically the same, and why there should be this difference in the odor has not been explained to my satisfaction.

"I am sending a copy of this letter to Dr. Phillips, to see if he has anything further to suggest."

Since the above was put in type, the Editor has paid a visit to the Provincial Congress of Apiarists of Ontario, and there saw a sample of European foul brood in a not very advanced stage. Although the odor was characteristic and not at all similar to that of American foul brood, which we all agree resembles very much that of a joiner's glue pot, yet it was not offensive enough to be conspicuous. The stage of the disease mentioned above by Mr. Pettit, where "from 30 to 60 hives were exposed to sultry weather, with scarcely any live bees left in them," is sufficient to explain the very unpleasant effect upon the nostrils, and after once getting a puff of this stench, one would

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naturally detect it with disgust where it was the least noticeable. Were we not afraid that Mr. Pettit might object to bouquets, however well deserved, we would tell our readers that Mr. Pettit has very favorably impressed the writer with his cautious, judicious and methodical ways.

Origin of Honey-Dew.—Concerning the origin of honey-dew, Dr. A. Heinz, University professor at Agram, reports as the result of his observations: That honey-dew is produced if unusual increase of transpiration is excited by strong light in leaves growing rapidly and not too old, and high concentration of the sap is induced. If the disturbance continues beyond a certain limit, the leaf suffers and falls prematurely. The formation of honey-dew does not always depend upon an absolutely high stimulation of warmth and light, but rather upon a sudden great difference, which occurs, for instance, when after very cool spring nights the organ which has been suppressed in its activity suddenly receives the stimulation of the intense morning sun. To this P. Neuman adds:

"I have also frequently observed on young lindens upon which few plant-lice were to be found, that the drops which are supposed to be sprayed upon the leaves by these insects were numerous upon the uppermost tender leaves where no lice were to be found at all."
—*Bienenwirtschaftliches Centralblatt.*

Illinois State Meeting.—The Illinois State Association met as per call in the State House at Springfield, Oct. 30 and 31.

It was a very good meeting. Two men of National repute were present, Mr. N. E. France and Mr. E. B. Tyrrell.

Only one paper was read before the Association. The other contributors opened their subjects by speaking instead of reading essays. But the discussions were lively and the question-box well supplied.

The most interesting part of the program was a talk by N. E. France, who spoke on divers labor-saving methods and devices. Any person who hears Mr. France becomes easily convinced that he is as much of a benefactor to the apiarian public through these talks as he was through his management of the National Association.

Mr. France spoke with praise of the concrete hive-stands. He thinks they should come into general use. But he spoke disparagingly of concrete hive-covers, which some persons recommend. He tried them and found them too heavy, too brittle, and too much subject to temperature changes, for they are, he says, "too cold in winter and too hot in summer." He spoke of having tried salt water in troughs side by side with clear water, and that the bees visited in preference the salt water, but it should not be heavily salted; only enough to taste the salt.

He advised, when you build a bee-house, to place the joists just far enough apart to hang frames between them by nailing a projecting strip on the underside of the joist, for the ends or shoulders to rest upon. In this connection he emphasized a remark

made elsewhere by the Editor, that frames which are hanging freely in an open space without being close to each other are much less apt to be infested by the moth.

Mr. France also stated that the moth-balls sold by all druggists for keeping moth away from woolen clothes in the summer will also keep the bee-moth away from combs in a box or a hive. But, to his mind, the bi-sulphide of carbon saturating a small rag and inserted in a hive is the best moth-killer.

Two resolutions were brought forward by the Resolutions Committee and were passed unanimously. The first was to recommend the establishing of a course of apiculture at the

all members free of charge. Those of our Illinois readers who do not yet belong to the State Association, should not hesitate to send their \$1.00 or \$1.50 for both Associations to Mr. Jas. A. Stone, Rt 4, Springfield, Ill.

The election of officers, which took place at the last hour, resulted as follows: President, E. J. Baxter; Vice-Presidents, W. B. Moore, H. S. Duby, Aaron Coppin, G. M. Withrow, I. E. Pyles; Secretary, Jas. A. Stone; Treasurer, Chas. Becker.

Sweet Clover is a Biennial.—By oversight, an error at the top of page 302 was allowed to pass uncorrected. It is



MEMBERS PRESENT AT THE ILLINOIS STATE MEETING.

First row, left to right—J. H. Roberts, E. B. Tyrrell, N. E. France, C. P. Dadant, Chas. Becker, E. J. Baxter, Xavier Widmer. Second row—W. B. Moore, W. H. Gray, L. C. Dadant, Jas. A. Stone, G. M. Withrow, D. S. Beeler, J. M. Beeler. Third row—B. L. Sherrill, H. S. Duby, B. O. Vaughn, H. L. King, W. H. Stumm, A. Coppin, Miss Coppin, Miss Stewart.

State University, the other an increase of the premium list of prizes by the State Fair management to equal that of Minnesota.

A very interesting part of the program was the statement made by Mr. Tyrrell, the National Secretary, concerning the present and future of the National Association. He acknowledged that there were flaws in the Constitution which must be mended at the coming February meeting, but explained what great hopes he had for the future of the Association. It was generally conceded that we must be patient and give the new arrangements a fair trial. Meanwhile the State Association voted to accept members at the former price of \$1.00, with the understanding that such members would not reap the benefits of membership in the National on an equality with those who paid \$1.50 for membership in both.

This is only a short synopsis of the meeting. The full report, taken down by Miss Stewart, the usual stenographer of the State Association, will be published in book form in the same manner as formerly, and will be mailed to

there said that sweet clover is a perennial, and does not bloom until its second season's growth. Unless there is a brand of sweet clover in Texas different from that which grows farther east, none of it lives longer than two years. The most of it is biennial, grows one year, blossoms and seeds the second year, and then dies, root and branch. None of it lives through the second winter. There is one kind of yellow sweet clover that is not even biennial, but annual.

Massachusetts' Ten-Weeks' Course.—We wish to call attention of the bee-keepers to the opportunities offered by The Extension Service of the Massachusetts Agricultural College, in the Ten-Weeks' Course, beginning Jan. 6. A course in bee-keeping is designed which will be a general, practical survey of the maintenance of bees, not only for their products, but as an adjunct to modern agriculture. Special effort will be made to correlate the subject with the various phases of horticulture; namely, fruit growing, cranberry culture, market gardening and

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greenhouse crops. Particular emphasis will be laid upon the most recent and approved appliances and systems of manipulation. The fine collection of appliances of the college will give exceptional opportunity to the serious apiculturist.

For further information apply to the Director of The Extension Service, M. A. C., Amherst, Mass.

Honigloesmaschine.—Heather does not grow in this country—more's the pity—but in the countries in which it does grow the honey secured from it is considered the best in the world. It has one peculiarity which is at the same time a strong recommendation and a drawback: It is so thick and tough it cannot be extracted. Now, however, the German bee-journals are in great glee over the fact that a machine has been invented which will loosen the honey in the cells so as to make it capable of being extracted, an invention which is hailed as being worthy to be classed with the invention of movable combs, the honey extractor and comb foundation.

The machine is called *Honigloesmaschine* "Triumph," or "honey-loosening machine." To operate, the comb is uncapped as usual, then laid flat upon the table of the machine, when the operator turns the crank of the machine for a short time, turns the comb over and operates on the other side, and the comb is then ready to go into the extractor.

It would seem that when the contents of the cell are slightly stirred, the cohesiveness of the honey is broken up, making it possible to throw it out. Over the table of the machine is a system of long needles, but without sharp points, 160 in number, standing perpendicularly. When the crank is turned the comb is raised and the needles enter the honey, 3 or 4 in each cell. So delicately do they act that if one of them strikes a cell-wall it is either turned aside or raised up. When one comes in contact with the bottom of a cell, or with the wood of a frame, it is raised up. The result is that the honey is "loosened" in the cell and the comb is entirely uninjured. The continued turning of the crank drops the table, moves table and comb along about half an inch, the comb is again raised, and so on. The cost of the machine is about \$9.00.

Page-Kenkel Mfg. Co.—In the advertising columns of the Bee Journal will be found the advertisement of Page-Kenkel Mfg. Co., of New London, Wis. This firm is the successor of the old Page & Lyon Mfg. Co., who have been in the bee-supply manufacturing business for 30 years, and with whom many of our subscribers are already acquainted.

California Meeting.—It was decided at a recent meeting of the State Association to hold the annual meeting in Los Angeles, Dec. 12, 13 and 14, with evening sessions on the 12th and 13th. From letters received a large number of prominent bee-keepers from northern and central California are expected, and arrangements are being made by

the committees to entertain them royally, and to arrange for a program which will be exceptionally interesting.

Men of national repute will be present. The California bee-keeper who misses this meeting will be unfortunate.

The Los Angeles County Bee-keepers' Association will hold its meeting on Dec. 11, just previous to the big meeting.

Iowa Bee-keepers to Meet.—The following is the program of the first annual convention of the Iowa State Bee-keepers' Association, to be held in the Club Room of the Savery Hotel, Des Moines, Dec. 12 and 13, 1912:

Thursday 10 a.m.—Address of the President—W. P. Southworth, Sioux City. Report of Secretary-Treasurer—C. L. Pinney, LeMars.

Greeting from Illinois—C. P. Dadant, Hamilton, Ill.

Committee Appointments.

Thursday 2 p.m.—"Production of Comb Honey"—F. W. Hall, Colo.

"Production of Extracted Honey"—D. E. Lhommedieu, Colo.

"Wintering Problems"—C. H. True, Edge-wood.

"Helpful Suggestions"—T. W. Blackman, Nevada.

Friday 10 a.m.—"Fuss and Fun of Bee-keeping"—Eugene Secor, Forest City.

"The Foul Brood Situation"—Frank C. Pellett, State Inspector, Atlantic.

"State Aid for the Industry"—E. E. Townsend, Ft. Dodge.

"Is Improvement Possible?"—Dr. A. F. Bonney, Buck Grove.

Friday 2 p.m.—Question-Box.

"Making the Most of the Home Market"—J. L. Strong, Clarinda.

"Co-operation in Marketing, Increasing the Forage and Bettering Locality"—Frank Coverdale, Delmar.

"Exhibits at Fairs as a Means of Advertising"—G. W. Nance, Anthony.

Open discussions led by prominent bee-keepers.

Making the most of the home market.

Increasing the forage and bettering the locality.

Exhibits at Fairs as a means of advertising.

Election of officers.

Let every bee-keeper bring samples of his best product to put on display, and come prepared to demonstrate any new kink or short cut that is likely to prove of value to the fraternity.

Headquarters will be at the Savery Hotel.

A Socialist Bee-keeper Candidate for Governor of Idaho.—A small handbill is before us giving the portrait of Mr. L. A. Coblenz, of Idaho Falls, Idaho, a very neat-looking man, and his program as candidate for Governor. We quote:

"The candidate for Governor has been a grain farmer, a fruit farmer, and is now an *apiarist*. It may seem a joke to vote for one of your own class. Custom makes the most sensible program seem foolish if we do not stop to think. But think. Would it not be a far greater joke for a working man to vote for a big business man, a banker, or even a lawyer, who, nineteen times out of twenty, is the servile tool of capitalism?"

Strength of Bees in Uniting.—An instructive article on uniting bees, by Ernest Eaton, appears in the Irish Bee Journal, page 96, in which we find this sentence: "Success lies in having the bees about the same strength, in the same condition, and quite free from irritation." That equality in strength of the two lots to be united should be placed first as a requisite of success is something new. Coming from the source it does, it is worth considera-

tion. Yet it is only fair to say that the experience of the writer in hundreds of cases would lead to the belief that there is no disadvantage in having the two lots of different strength, if indeed there is not a positive advantage in it. By far the greater number of cases have been in the spring, when a single frame of brood and bees would be united with a weak colony, the frame being placed at the side of the brood-nest with no precaution whatever, and with never any fighting.

Giving Swarms Extra Room Below.—There is nothing very new in the idea of allowing a swarm to have an empty story under the brood-chamber for a few days, in order to prevent desertion, but it has perhaps not received the attention it deserves. R. Beuhne, Australasian Bee-keeper, page 8, has this to say about it:

"I find bees are more contented if allowed to hang in a cluster for a few days after being hived, instead of being divided by the intervening full sheets of foundation. Some swarms which I hived on full sheets or on drawn combs actually built combs for a few days from the bottom-bars of the frames down into the empty hive-body below before they commenced drawing the foundation or storing in the drawn combs.

"For the average season I find the best plan is to have swarms on clear drawn combs, with an empty body underneath, in which they can hang in a cluster. They may build a little comb on the bottom-bars of the frames, but this they will soon neglect. In a week or so I put a set of full sheets on top and withdraw the empty box from below. It is natural for bees to hang in a cluster for some days after swarming, and when given this opportunity they are less inclined to turn out; that is to say, swarm again within a few days, as they do some seasons."

Wisconsin Bee-keepers' Association Meeting.—The 34th annual convention of the Wisconsin State Bee-keepers' Association will be held at the Capitol Building, Madison, Wis., Dec. 17 and 18, 1912, beginning at 10 o'clock a.m., Tuesday the 17th.

As usual, an interesting program consisting of papers and questions will be presented for discussion.

Important legislation, to be presented to the next Legislature, will be discussed.

The Chicago-Northwestern Bee-keepers' Association holds its annual convention in Chicago Dec. 19 and 20, thus giving all members an opportunity to attend both conventions at very little additional expense.

Headquarters for the bee-keepers will be at Simons' Hotel. To secure a room, write in advance enclosing \$1.00.

GUS DITTMER, Sec.

Coal Cinders in Front of Hives.—Coal cinders are excellent for the surface soil of an apiary location. Cinders under the hives and in front of them keep the moisture away and prevent the growth of weeds. They also form a more solid foundation than earth.

Stings as a Means of Ascertaining Death.—The "Journal de la Santé" is quoted by L'Apiculteur as recommending bee-stings for ascertaining death in doubtful cases. They say that in case of death the sting shows no reaction whatever on the skin in the im-

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mediate vicinity. This looks plausible, but there are more positive ways of ascertaining death.

The Picture Contest.—Our picture contest, which closed on the first of November, was an entire success in point of pictures received, and also as to the quality of the same. Over 200 pictures were entered by 85 different contestants. Our front cover for this month will show the picture which was awarded first prize by the judges.

The two men who judged the contest were Mr. E. J. Baxter, president of the Illinois State Bee-Keepers' Association, and Mr. H. M. Anschutz, of Keokuk, Iowa, acknowledged the best photographer in Iowa, and probably in the middle West. Prizes awarded were as follows:

First Prize—Edward F. Bigelow, Sound Beach, Conn.

Second Prize—Wesley Foster, Boulder, Colo.

Third Prize—J. F. Diemer, Liberty, Mo.

Fourth Prize—L. L. Ness, Morris, Ill.

Fifth Prize—B. F. Schmidt, N. Buena Vista, Iowa.

Other prizes were awarded to contestants in the order named below: F. E. Millen, Ontario; Chas. Kennard, Indiana; J. A. Nininger, Kansas; G. L. Sauer, Illinois; T. Yawata, Japan; H. Adams, New Mexico; F. F. George, Idaho; Ira D. Bartlett, Michigan; J. A. Green, Pennsylvania; J. A. Bucklew, Ohio; G. E. Morris, Vermont; K. Okushima, Japan; J. H. Berry, Oregon; T. C. Nall, Arkansas; J. S. Dean, New York; Mrs. Bertha Anthony, California; A. A. Augenstein, Illinois; W. C. Eastman, Ohio; J. B. Hollopeter, Pennsylvania; J. M. Butler, Idaho; S. R. Stewart, Colorado; Dr. J. M. Kleeber, Wisconsin.

Weight of Sections.—1. When comb honey is quoted at 17 to 18 cents per pound, does that mean that a section is called a pound, or does it go by the actual weight?

2. If the actual weight is used, what does the commission man do in case a shipment is sent to him which has not been weighed before being sent?

3. What commission is charged?

These questions were referred to R. A. Burnett & Co., of Chicago, who give the following answers:

1. No, it does not mean that a section is called a pound, but the actual weight is used.

2. He weighs it, and also tests weights given by consignor.

3. Ten percent on consignments that are sold in less than car lots.

Chicago-Northwestern Meeting.—The Chicago-Northwestern Bee-Keepers' Association will hold its annual meeting at the Great Northern Hotel, Room L., 38, Chicago, on Thursday and Friday, Dec. 19 and 20, 1912. The Great Northern Hotel is situated on the corner of Dearborn Street and Jackson Boulevard, and easily accessible from any railroad station.

As Chicago is a central point there should be a good meeting as in the

past. Several of the noted bee-keepers have promised to be present, and as our meeting comes just after the Wisconsin meeting, a good delegation is expected from Wisconsin.

All bee-keepers are invited to attend.

L. C. DADANT, Sec.

Colorado Meeting.—The annual convention of the Colorado State Bee-Keepers' Association will be held Dec. 12 and 13, in Denver, at the Auditorium Hotel, 14th and Stout Streets. The Auditorium Hotel will be headquarters for the Association. The rates are \$1.00 a day and up. The hotel is new and centrally located. The management has placed the Pompeian Room at our disposal; the same one as last year. Take Colfax car under viaduct at the Union Depot, and get off at 15th and Stout Streets, and walk one-half block west to the hotel.

Every session of the meeting will be a live one, and we hope for a large attendance. We will have an "auto session." This will be a hummer, as we are going to have the "auto" dealers show us their utility cars and their winning points.

The program has not been entirely arranged for at this date, but we will have worth-while sessions, every one.

WESLEY FOSTER, Sec.

Demonstrating Bees.—On another page will be found a contribution from Mr. F. E. Millen, of Ontario, a description of the demonstration of bees, which is very interesting, and which might well be imitated at fairs throughout the country. Mr. Millen is

the man whose death we erroneously reported in our last number. He is taking his final year at the Ontario Agricultural College, specializing in biology, with a view of taking up bee-work in some definite form when he graduates next spring with the degree of B. S. Agriculture from the Toronto University, with which the College is affiliated.

The Roswell Fair.—The Roswell (New Mex.) Morning News of Oct. 4, publishes a list of the winners at their Fair.

The local winners in bees, honey and wax are Ernest Nelson, J. W. E. Basham, R. B. Slease, Henry C. Barron, B. H. Crawford, A. J. Crawford, E. W. Marable.

This shows there were at least seven exhibitors; a larger number than in many a State Fair.

A Tea Rose Which Produces Honey.—In L'Apiculteur it is reported that the rose bearing the name "Marie Van Houtten," a tea rose, yields honey, and that bees were seen licking the nectar between the stamens of its blossoms. They say that it produces as fully formed seeds as the wild rose. Might not the one be the cause of the other?

Washington State Meeting.—On Jan. 8, 1913, the Washington State Bee-Keepers' Association will hold a two-days' convention in North Yakima, Wash. In all probability Mr. George W. York, president of the National, will attend.

J. B. RAMAGE, Sec.

BEE-KEEPING



FOR WOMEN

Conducted by Miss EMMA M. WILSON, Marengo, Ill.

The 1912 Season

As has been already mentioned, the season of 1912 was unusual. It may be well to give here the outcome of the season, and to mention some of the unusual items. In the first place, the heavy winter loss was something very unusual. In the fall of 1911, 114 colonies were put in the cellar, and only 64 were left to begin the season. A loss of nearly 44 percent is something Dr. Miller has not experienced in many a year. Sickness and death, practically in the family, in the fall, and Dr. Miller's sickness in the spring, may account in some part for it. But others in this region lost from 75 to 100 percent, and we had no occasion to complain with 56 percent of ours left.

The prospect looked pretty blue. No show of white clover, and feeding up to the last of June, and we felt we would be thankful if the bees would only get their winter supplies. But white clover seemed in some mysterious way to come from nothing, and now with an increase of 45 percent, nearly 6000 sections, and colonies heav-

ily supplied for winter we are more than thankful.

After all supers were taken off the hives with their contents hefted, if a hive felt as if nailed to the ground, it was not even lifted, but passed by as safe. If there was the least bit of uncertainty about its weight it was weighed with the use of a spring balance, and if it weighed less than 50 pounds, combs of sealed honey were given to bring up the weight. In most cases this is heavier than necessary, but in case a hive is filled with old combs that are unusually heavy, or have an unusual stock of pollen it is none too heavy. Many of our colonies weigh 60 pounds or more.

Absence of Brood in Sections

Among the peculiarities of the season of 1912, was the fact that in our crop of about 6000 sections, not a single section was found with pollen in it. Of course, it is not impossible that there may have been one or more cells partly filled with pollen, then filled out

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with honey and sealed over, so that the pollen would escape detection unless the sections were held up to the light, when a dark spot would be shown when one tried to look through; but it is not so very likely that there were any cases of this kind, for when pollen is present in sections there will almost surely be some of it left unsealed. We generally have very little trouble with pollen in sections, but an entire absence of that trouble is something decidedly unusual. Could it in any way be connected with the unusually late season, with the harvest beginning late in June?

Improving by Requeening

Perhaps in no other case does so great a responsibility rest upon so small an atom as the weight that rests upon the queen-bee. She has to answer for the good or bad qualities of the whole colony. If the bees are good honey-gatherers, if they are gentle, if they are non-swarmer, if they seal their honey with extra white cappings, etc., all these good qualities are credited to the queen. Also she has to answer for all the bad that is due the colony. If the bees are lazy, good for nothings, if they are regular little vixens as to temper, if they persist in swarming, swarming, swarming, if they seal their honey with greasy cappings, she is the one who is blamed, too. Is it right to lay all the blame on one small bee?

If she is a fine looking queen and a good layer, and yet the work of her colony is below the average, don't you hate to pinch her head? Don't you feel like pleading for her life, saying, "Oh, let's try her a little longer, may be she will do better next year?" Well, if you do, just steel your heart and bravely pinch her head, for she is surely the culprit, and it doesn't pay to keep poor stock when you can just as well have the best. If you have never tried weeding out your poor queens and breeding from your very best colonies, just try it, and see what a difference a few years will make in results.

Take the item of temper alone. One very cross colony will make the whole apiary appear cross, and it may take you some time to locate the real culprit, but once located lose no time in pinching the head off of the queen. Naturally you would not expect any improvement in the temper of the bees until the progeny of the old queen were all dead, and the new bees had taken their places. That would be nine weeks from the time the old queen was killed. The strange thing about it is you don't need to wait that long, at least not in all cases. This summer we had one exceedingly cross colony. We knew it was somewhere in the lower part of the apiary, but it took us some time to locate it. When we finally did locate it a new queen was given. We didn't have to wait nine weeks for an improvement in temper, for within a week after the new queen began laying we noticed a decided difference, and long before the new bees were old enough to fly, that colony appeared to be as good tempered as any in the apiary. Neither is this

case solitary. In several other cases the same thing has been observed, and the conclusion seems to be almost irresistible that the queen in some mysterious way has an influence upon the progeny of her predecessor. It hardly

seems a reasonable conclusion, but these are the facts.

An interesting query arises: If a queen from a cross colony should be given to a gentle colony, would the gentle bees turn cross?

SKETCHES OF BEEDOMITES



JOHN S. HARBISON.

Biography of the Largest Honey-Producer in the World

The following biography of the late John S. Harbison was kindly furnished to us by his daughter, Mrs. Hinkle, together with the picture which we reproduce herewith. She has our thanks for this kindness:

"John S. Harbison was born in 1826 in Beaver Co., Pa. He came to the Sacramento Valley in 1854. He found that many of the men who were raising food products were making more

money than the average gold prospector. He worked for wages in Sacramento until he had enough money to start for himself. In 1857 he went back to Pennsylvania and prepared a shipment of honey-bees, consisting of 67 hives. These made the trip by way of New York, then via steamer to San Francisco and up the Sacramento River. On arrival he was offered over \$100 per hive. At this time there were no bees west of the Rocky Mountains. In 1859 a second shipment of bees was made from Pennsylvania, also fruit and ornamental trees, and he established a nursery along the Sacra-

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mento River, two miles from the Capitol building. The year of the big flood, about 1863, his nursery and many of his bees were swept away, and he had to make a new start.

"He returned to New Castle, Pa., in 1865, and was married to Mary J. White, and brought her to California.

"In 1869 Mr. Harbison established apiaries in San Diego county, and moved to San Diego in 1874. He was then the largest honey-producer in the world, and won many silver and bronze trophies and diplomas for finest honey exhibited at the Centennial and other exhibitions and fairs.

"He patented the Harbison hive, which was used almost entirely in the West until the one-pound section boxes were introduced. He also published a book on bee-culture. The last years of his life he kept an apiary of 250 colonies, and also experimented on the grafting of English walnuts on to the native California stock, with great success.

"Four weeks before his death he attended a bee-keepers' convention at El Cajon, San Diego county, and urged

them to consider the following: 'That San Diego is to have a Panama California Exposition in 1915, to celebrate the opening of the Panama Canal, and that this is the first American Port of Call on the Pacific; that the conditions in the grounds for the said Exposition are ideal in every way for the planting and maintenance of all honey-producing plants, and for the establishment of a model apiary in conjunction with the same.'

"He believed that by a judicious use of glass and wire-screen, this could be made one of the most attractive exhibits of the Exposition, and if carried out to show the old and new methods of handling bees and honey would be a splendid advertisement, and most instructive from every point of view, and he urged those at the convention to make such an exhibition, and to start the plantation of bee-flora at once.

"After attending this convention he sent three varieties of sage seed to the nurseries connected with the Exposition, that the plants might be ready to set out the coming year.

"Mr. Harbison died Oct. 12, 1912, at the age of 86 years and 13 days."

although there is not much more honey unsold.

Wanted—A Queen-Breeder in Colorado

There is not now a queen-breeder in Colorado who makes a business of it. There are several bee-keepers who sell queens, but they are not soliciting business. The mailing of queens to Colorado from the South and East is a hazardous process. Many queens are lost. It takes three days from eastern Colorado. You may see what a queen is up against if she has already traveled from several days to a week before reaching the eastern Colorado line. I believe that there is a business for a queen-breeder here, that would keep him busy. The bee-keepers need to get queens within a day or two from the time they are mailed.

If a location could be found where queens could be reared as early as May, the breeder would prosper.

More About Moving Bees

In the September number I gave an account of a bee-keepers' week. Perhaps I should now tell how those smothered bees came out. Thirteen of them were lost from the combs breaking down and drowning the bees as much as from smothering.

The Monday following the events I have told, we had the bee-meeting in Cortez, reported in the November American Bee Journal. The next day George and I started down the canyon again with a spring wagon after what bees we could haul. We reached the place where we had left them before sundown, and got the bees straightened up before dark. I placed the combs of the smothered colonies on top of the strong ones, first cleaning out the dead bees and broken combs. We loaded up the extra covers and bottoms and 22 colonies, leaving 11 with the extra bodies on top for extracted-honey production. We started about 6 o'clock and reached the ford of the McElmo River about noon.

A heavy rain had fallen some days before, and the river bed was changed somewhat, so we unhitched and rode the horses back and forth to find the best fording point. Then we hitched up again and began the fording. Upon reaching the homeward bank the rear wheels cut down into a sort of quicksand, and they settled down until the wagon bed was but a short distance above the water. We had started with a shovel, and it came in play here. A half hour's shoveling and removing branches and boulders so that the horses could have a good footing, we were ready to pull out. The rear wheels raised nearly two feet when the horses started, and had our team been at all unsteady we would have had serious difficulty.

We reached the apiary in good time, and had no overheating of the bees at all, as I had the supers, with section holders removed, on top, and wire-netting over that. Frequent sprinkling kept the bees contented.

Thursday, Aug. 1, was busy fixing up the bees and putting on supers, finishing the honey-house, etc. The cracks in the walls of the house I covered with

FAR WESTERN



BEE-KEEPING

Conducted by WESLEY FOSTER, Boulder, Colo.

The Honey Market in October

The potato crop is reported to be one hundred million bushels above normal this year. The price has "gone to pieces" to such an extent that there is little profit to the grower. In many cases the crop will be a loss. But the cost of potatoes is down when the consumers are considered. The consumers are benefitted this year along with the dealers and shippers, while the growers lose. The apple crop is in a like condition, but from present indications it does not seem that the consumers are to get much advantage of cheap apples, and the growers are not getting much

for their crop. The dealers and carriers get the big lumps there.

The rush of these two crops to market has engrossed the attention of the dealers to such an extent that they have not had time for honey; hence the slow sale of western comb honey in car lots. The larger part of this honey will probably be shipped before Nov. 15.

The market has dropped somewhat on comb honey, and \$3.00 is the highest price that has been secured for No. 1 comb honey since early in the season. Somewhat lower prices may prevail before all the honey is moved,



COLORADO MOUNTAINS IN WINTER—THE SOURCE OF IRRIGATION WATER.

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lath, and those in the floor with tin strips. I covered the window with wire-screen. When I had the house ready I walked 3½ miles to George's place and we prepared to haul over my 450 supers, 150 hives, covers, bottoms, etc. We got this all done the next day, and I piled up all the supers and hives the following day, leaving room

for my bunk and small work-table. I bought 27 colonies of a neighbor and moved them to the apiary and supered them. When the 11 colonies—still down in the canyon—are brought up I will have an apiary of 60 colonies. I secured 70 cases of honey from these bees, which is pretty good considering that the apiary was finally established after Aug. 1.

seeds. It is thus that the bees pay abundantly by their services for the treasures the nectar-yielding blossoms offer to them. The exceeding interdependence of flowers and insects and the vast necessity of this has long been recognized by horticulturists and other authorities.

"Honey-bees are the most important distributors of pollen of all insects because they appear in larger numbers, especially early in the season, and their greater activity makes them more useful in the work they help to perform. It is estimated that the value of honey-bees as pollen distributors is far greater to our country than the value of the crops of honey produced. We owe it to honey-bees that we have a larger quantity and better quality of fine fruit, vegetable and cereal crops than we would otherwise have. Of this there is not the least doubt. Since honey-bees are general pollen gatherers, appear in greater numbers, visit a far larger number of blossoms over a greater territory, and do this more thoroughly than any other insect, it is apparent that they are indeed most valuable friends to mankind.

"Plants or flowers have sex very similar to that in animals, and it is just

SOUTHERN BEEDOM~

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

The True Value of the Honey-Bee

The writer has been engaged in various positions in which he was enabled to aid in spreading the knowledge of the true value of our little insects. It is of untold worth to any State, and the country at large, to emphasize the value of keeping a few colonies of bees on the many farms that are without them, both for the honey they gather as well as *the great aid they render in the pollination of our fruit and other blossoms.* At the same time it is very important for us to educate the people that would keep bees to keep them in a proper manner, since we know the results caused by the bee-keeper who does not take care of a colony of bees in frame hives. Simply putting them in the most up-to-date hive and leaving them there to take care of themselves will never do.

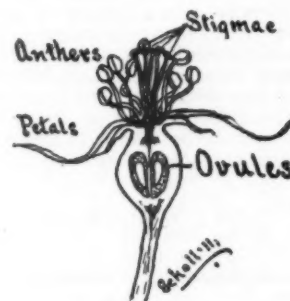
So these things should be taught, and it is for the more experienced bee-keepers of the country to lend their aid in such educational work. Unless this is done, ignorant bee-keepers will be quite a detriment to the honey-producer.

For this reason alone many bee-keepers would not advocate the keeping of bees on more farms, but there are many places where no large apiaries exist, and with the proper education of the farmers much good would result. I tried to emphasize the point fully in the following part of a chapter in Bulletin No. 24, on "Texas Bee-Keeping:"

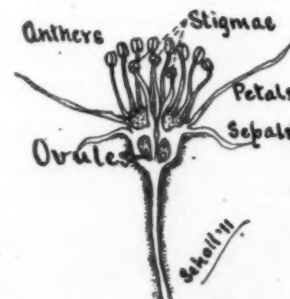
"A serious trouble and a great mistake of the majority of farmers is their neglect of these most important of their friends, the honey-bees. They should receive as good care as is given to anything else on the farm. Their value cannot be overestimated,

"It is not sufficiently understood that honey-bees were not only created for the purpose of furnishing mankind with delicious honey, but for another and much more important reason—that of fructifying the flowers visited by them so that it may be possible for these to bear fruit and seeds. The most of our host of plants absolutely require the visits of the honey-bees, or other insects, to carry pollen from one flower to another and thereby fertilize the blossoms. Pollen is gathered by bees from flowers for food, and carried to the hives in little bright-colored pellets on their hind legs. They must have pollen to prepare the partly-digested food with which the young larvæ are fed. Inability to secure sufficient pollen causes delay, or diminished progress of the colonies. Ordinarily but one kind of flower is visited on a trip when pollen is being gathered. In gathering either pollen or honey the bees come in contact with the pollen grains of the blossoms, which adhere to their hairy bodies.

"In passing from flower to flower some of the pollen grains come in touch with the stigmas of each flower visited, which effects cross fertilization and a thorough setting of fruits and



Pear



Apple

as necessary that fertilization take place in these before fruit can be borne or seeds be developed. While both male and female sexes exist in the same flower of many plants, there are some plants in which the male sex exists in one and the female in another flower of the same plant, and in still others each sex is confined entirely to one plant. In any case it is necessary that the pollen grains from the anthers of the male part of one blossom reach the stigma of the female part of another where they enter into the ovules within the blossom and complete fertilization, after which the development into fruit or seed follows. Without the pollina-



WHERE THE ORCHARD PAYS.

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tion of the blossom, fertilization cannot take place, and the blossom must wither and die instead of bearing fruit.

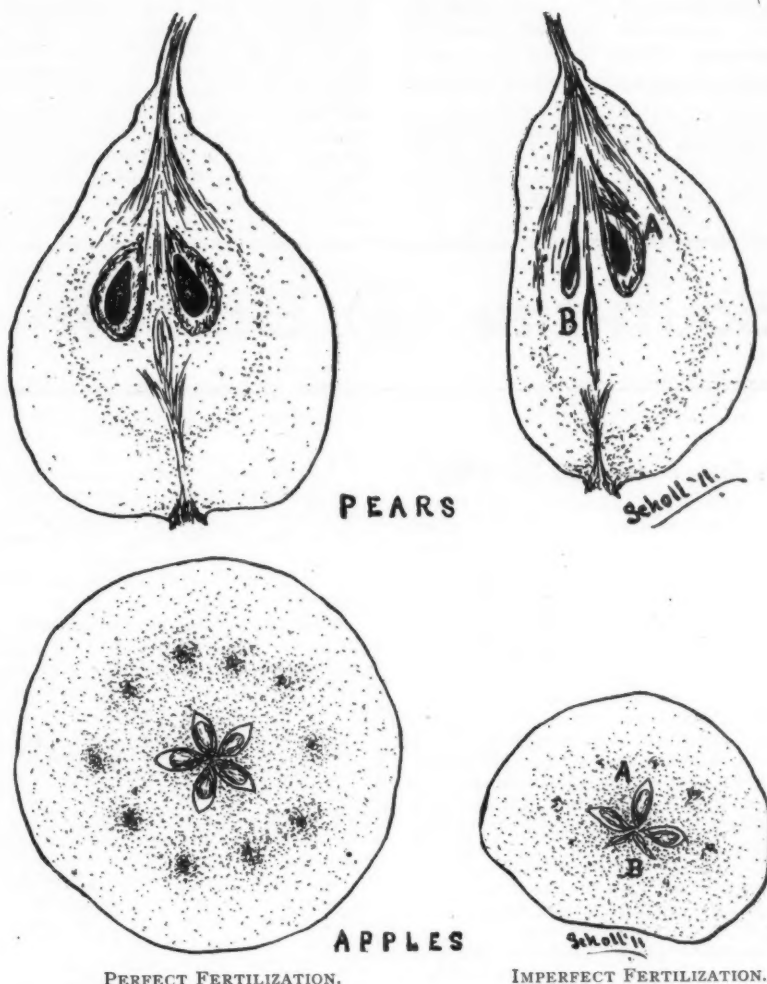
SOME STRIKING EXAMPLES.

"Where many varieties of trees are mixed in an orchard there is less trouble from the lack of proper pollination if the weather is warm and dry, and the wind can carry the minute pollen grains from flower to flower; but even under these conditions visits of bees make the work more thorough. Such ideal conditions do not always exist. This is especially true where the period of bloom is a long one. It is during conditions not so perfect, when the weather is damp and the pollen is sticky and not so easily blown about that the journeying back and forth of the insects plays a conspicuous part in the production of harvests of fruit or seeds. It is also apparent that when certain varieties are isolated from others of their kind, or when the distance between them is great, or they are in a direction from each other that the wind cannot carry the pollen, the chances of pollination are cut off, there is no setting of fruit. There have been instances where insects were not present, that the side of a tree from which the wind was blowing the pollen bore no fruit, while the other side yielded abundantly, showing how the bees might have aided. Careful investigation has demonstrated beyond a doubt where the agency of the honey-bee was not only essential, but absolutely necessary, to insure satisfactory crops.

"Darwin, the greatest naturalist, recognized, in his time, the value of the honey-bees as an important agent in relation to plants when he wisely said: 'No bees, no seed. No seed, no increase of the flower. The more seeds from the flower the more flowers from the seeds.' This he proved by extensive experiments, and others have done this many times after him. He found in one of his experiments the following results: 'Twenty heads of white clover visited by bees produced 2990 seeds, while 20 heads so protected that bees could not visit them, produced *not one* seed.' The same kind of experiments have been made with strawberries and various other fruits. Fruit trees that were covered half way with netting, so so that the bees could not visit the flowers, bore fruit abundantly on the unprotected parts, but none at all, or very little, and that of a very inferior quality on the other.

MORE BEES, BETTER CROPS.

"This shows the importance of keeping a few colonies of bees on every farm. For the large commercial orchardists, or extensive growers of cucumbers, melons, and various other crops, this question is of more importance still. Where large orchards or fields are planted in solid blocks, or where there are a number close together, cross pollination is not satisfactory on account of the lack of sufficient insects to do the work properly, especially when the main part of the trees or plants are in bloom. Therefore, the keeping of honey-bees near them is to be encouraged, to increase



the quantity as well as the quality of the crops.

"In one instance the owner of a large orchard did not get any fruit from it for eight years, and was about to dig up the entire orchard. Being advised to try keeping honey-bees to fertilize the blossoms, he did so. The result

was that he sold thousands of dollars worth of fruit thereafter. The idea of keeping bees in this case was mainly to fertilize the fruit blossoms. But the usual crop of honey yielded by them, aside from the beneficial service rendered, increases their value. Many other instances might be given."

CANADIAN



BEEDOM~

Conducted by J. L. BYER, Mt. Joy, Ontario.

Exceptions in All Things, So With Uniting

That bees do nothing invariably is generally admitted by all who have handled them to any great extent, but every once in awhile they do something so utterly unorthodox as to surprise us even when we are looking for the unexpected to happen. In my experience with the "critters," I have done very little uniting in any form, always aiming to have nothing but strong colonies on hand *all* the time.

However, what little uniting we have had to do in the past was undertaken with the doubling up of a weaker colony on top and paper between the two stories. It has always worked to

perfection, and I am *just sure* the plan would work under almost any conditions.

This fall quite a lot of requeening was done at the home yard, and late in October it was found that one real strong colony was queenless, and another one had a virgin that had not mated, owing no doubt to the long spell of wet, cloudy weather experienced at that time. From two different out-yards I brought as many weak colonies with good, young queens, and the next day, towards evening, I doubled them with the two colonies referred to.

Owing to the miserable weather at that time, after two or three examina-

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tions in an effort to locate that virgin queen, I became disgusted and decided to let them take their chance and double them with one of the weak colonies brought home. The colony that was queenless acted in the usual manner, and all united peaceably, the queen being noticed when I removed the combs out of the top story later on. As for the other colony with the virgin queen, they simply butchered every bee that was in the colony united with it. Both colonies were treated at the same time under exact conditions, but what a difference!

The fact of the virgin queen being present must explain the difference, but I will own that I *expected* the virgin to disappear and the fertile queen to be accepted in her place, and as for the fate of the bees being introduced, I was *sure* they would be all right. So much for expectation as compared with realization, and while I am not worrying much about the fate of the bees, I certainly would like to know why they were all killed in such a ruthless manner.

A Good Flight Before Winter

Monday, Nov. 11, the bees had a glorious flight, the day being warm and calm, with a slightly smoky horizon—typical of the weather commonly designated "Indian summer." No doubt many cellar winterers will place the bees in winter quarters just as soon as the weather turns cool again, as it is always advisable to take them in as soon as possible after they have had a good flight—any time after Nov. 10 in this latitude.

Bees wintering on the summer stands will also profit by the nice flight, although many of us, no doubt, would like to see them have another flight later in the month, or even the early part of December. Given a flight at that latter date, personally, I would just as soon see them shut in for three months without a flight, as experience has proven that with good stores a confinement of that length does no harm. Indeed, they are often without a flight four months and longer in this latitude; and, generally speaking, wintering is not to be dreaded even if those conditions prevail, provided the bees have an abundance of good stores, and have a good cleansing flight late in November.

Late Feeding

By the time these notes are in print, work with the bees for a few months will be a thing of the past. When the first snow comes, it is advisable to carefully look around the hives for the tracks of the deer mice who like to be domiciled for cold weather over the top of the bees, snugly wrapped in the nests made in the packing. If any are in evidence, and you find the hives they are in, instead of rousing up the colony too much in a chase after the mice, better quietly place a few traps in the packing and dispose of them in that way.

If for any reason some of the colonies have not been properly attended to in the matter of stores, they can still be looked after, although the work should have been done much earlier. For such late feeding as in December,

candy properly made is the best if it can be had, but syrup made real thick can be fed on the pepper-box plan. A 10-pound tin honey-can, with the top perforated, and when filled with warm, thick syrup may be placed next to the bees, care being taken to see that lots of packing is placed around and over the pail, so as to prevent the escape of heat. In this way feed can be given to bees at almost any season, but please bear in mind I am not advocating such late attention, as with syrup fed very late, and the bees having no chance to fly for a long time after the disturbance, good wintering cannot be looked for in the majority of cases.

A Trip to Finland Would be Enjoyable

That article from Paul Mickwitz, page 341, was read with a sense of pleasure on my part, as we shall always remember the visit that friend Mickwitz made with us shortly before he left for his home in Finland. A trip to visit him in his northern home is one of the anticipated pleasures looked forward to when some of my rich relations leave this mundane sphere, so that it will be possible, from a financial standpoint, to take a vacation of that kind.

Ripening Honey Artificially

Talk about ripening honey "artificially." Surely, the past season should forever stop all public advocacy of such a method on this continent. I certainly would like to see the man and the method that could have improved honey by leaving it exposed to the open air during the months of July, August and September that have just passed.

By accident, a small vessel of honey was left open in the honey-house after we had finished extracting the clover honey. Although at the time of extracting this honey was very thick, I was amazed, on finding this small pail behind the extractor a few weeks later, to see that the honey was thin and the flavor entirely spoiled. I know a number who left large tanks of honey exposed for some time, and while they say it did not *spoil*, certainly there was no *improvement*, for the air was so charged with humidity during all the late summer that moisture was everywhere, no matter how dry the local surroundings.

Some may say this was an exceptional season, as no doubt it was, yet any plan that is sure to work disaster in *exceptional* seasons, and very apt to do the same in *ordinary* seasons in the hands of most bee-keepers, should not be advocated for *any* kind of season.

Those "Harmless Bees"

In regard to those "harmless" bees so much discussed in the last American Bee Journal, I notice that the editor of the Bee-Keepers' Gazette, published in Ireland, pokes a bit of good-natured fun at Mr. Burroughs' claims in connection with his alleged discovery. Editorially, he says among other good things, "By the way, no one, so far, has claimed to have heard bees laugh. We all have heard them cry, and many of us know what their rage is like. Can it be that they, poor things, are deprived of the pleasure of healthy laughter with so many provocations to merriment as mankind affords them? We hope not."

BEE-KEEPING



IN DIXIE

Conducted by J. J. WILDER, Cordele, Ga.

Spring Management of Bees—A Word for Queen-Excluders

"FRIEND WILDER:—Agreeable to my promise that I would write my methods of operating with bees as soon as I could get them off to their fall location, I will now make the attempt.

"Our surplus honey flow comes from what is called here white tupelo. It usually begins to bloom about the middle of April, sometimes a little earlier, and on very rare occasions later. We only have it about three weeks, often not so long, so you see how important it is that we get our bees in the very "pink" of condition. Of course, we have some honey from other sources, but if the tupelo were taken out I don't believe any of us would attempt to keep bees in this immediate section.

"A number of years ago we used to have quite a lot of very nice honey, though very dark, from what is called snow-vine, but of late we have failed to harvest a sufficient amount of this

grade of honey for the bees to winter on.

"Well, to begin with my plan, in January as a starting point, we assume that all the bees have been returned to their winter or spring location here at Wewahitchka, and we are now preparing to get them ready for the harvest. Usually during the beginning of this month we have maple, ironwood, and other plants or trees blooming, from which source bees, weather permitting, get quite a little honey and lots of pollen, and they begin rearing brood to a considerable extent.

"As they are wintered in two stories I examine the lower story about the middle of January, or as early as possible thereafter, taking record as to the strength, amount of brood and stores of each. Owing to cool weather we are very likely to excite robbing, and I endeavor to be careful, going very slowly, using little smoke, and picking up all pieces of comb, especially if with honey. I haven't had a case of robbing in my apiaries in 10 years, and

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I attribute my success along that line, to being very careful about leaving wax, etc., around the apiary.

"By Feb. 10, I have gone over the apiary for the first time. This represents my individual work in apiary No. 1, which consists approximately of about 200 colonies, and this is the one to which I give my undivided attention. In our other two apiaries we have experienced men who work in about the same manner. We now begin work in earnest, as tithi is about to bloom, and bees are getting down to business. I now make the second visit over the apiary. This time, where bees are in a normal condition, we find from two to three frames of brood.

"All colonies having as many as four frames of brood, and a corresponding number of bees, I spread the brood; that is, I open the brood in the center and place an empty comb, or, better, a comb partly filled with honey in the space thus made. Before going further, for fear that I may get some inexperienced brother in trouble, let me say that in case the comb contains honey, it should be brought to the brood-nest from some other part of this hive; or, if from the honey-house, it should not be placed there unless it is very late in the afternoon, and after the bees have about stopped flying for the day, otherwise you might start robbing; thus handicapping you very materially with your work. I would not advise a novice to begin this kind of work too early in the season. I deem it very necessary to be careful; if not, you are likely to do a great deal more harm than good by making the brood-nest too large for the bees to properly cover, as we are apt to have cold snaps at this season of the year, and the brood that the colony already has may be chilled or killed outright, if the thing is overdone.

"I go over the apiary spreading brood only where I find the colonies of sufficient strength to permit it; say where they have as much as four frames of brood and bees in proportion. At this season, in an apiary of 200 colonies, you will probably find two-thirds of them in a condition to warrant this spreading. Having made a record of the strength of each colony in going through them the first time, I can judge by that, and by the way the colony is working, whether they will be able to have their brood spread, and I am saved opening every hive. I will have finished the second visit by the first of March, or near that date. By this time the bees, if the weather and other conditions have been propitious, are gaining strength right along, and in a very short time, say by the 10th, they will begin swarming.

"However, I do not wait for this, but go right back over the same ground, giving two instead of one empty comb in the center of the brood-nest, and opening some that were passed over on the last trip, many of which I find of sufficient strength to take one frame of empty comb. In some instances I find it necessary to raise one or more frames of brood to the super. Black tupelo, black gum, and several other trees, among which I will mention the range, are now opening, and I am ept busy. Here is the time for what I

consider my most profitable work of the entire season.

"I number the location of each hive, not the hive, and as all of my queens have their wings clipped, when a swarm issues I catch and cage the queen, then, move the parent colony to one side and place there a new brood-chamber filled with combs or foundation, then place an excluder on, and set the super from the parent colony over it. I now place the caged queen at the entrance of the new hive, and after putting a cover over the parent colony I go on with my work. After awhile, the swarm having found that their queen had failed to accompany them, begins to come back. I go and liberate the queen and let her go in, then I brush all of the remaining bees from the parent colony in front of their old location, and as I have an alighting-board in front of each colony, they all go at once into the hive, and I take the brood from which I have brushed the bees, and give assistance to the colonies that are too weak to spread their brood, being careful not to give any to those that are not numerically strong enough to take care of it.

"Sometimes I can give a colony only a frame, and have to go back a number of times, repeating it until by this method I get it up to the standard. Later on, say a week or more afterwards, I help out these swarms; otherwise by the time tupelo begins to open they will have become depopulated, and will not do anything toward harvesting a crop. You now see why it is best for me to number locations instead of hives, as I would have everything confused, and no uniformity in the apiary. But I have not stopped the spreading of brood, and I continue to do this until tupelo is well open, and I never use any of my swarms to make increase until this time, for I consider brood judiciously divided among the weak colonies in the apiary to be the most profitable work that I do.

"As I have from 3 to 16 swarms in a day, when swarming is at its best, I am able to get every colony in the apiary in prime condition by the time tupelo is well open. You must remember that this bloom only stays with us for something like three weeks, and often not so long.

"I use a 9-frame hive; its dimensions are standard except in width, and this is 13 inches, inside measurement. I use 9 frames in the lower story or brood-chamber, and 8 in the super. I believe this size is most convenient. It is large enough for the best flows, and not too large in a light flow to discourage the bees; it is a compromise between the 8 and 10 frame hives, but with an extra prolific queen the brood-chamber isn't large enough to accommodate her, and it may be necessary to raise some of the brood from below to the super. Unless the time for extracting is at least 10 days off, I am careful to raise only capped brood, otherwise I would fail in carrying out my idea of sanitation in honey.

"Let me here digress long enough to say that I don't believe a pure article of honey can be harvested unless queen-excluders are used in working for extracted honey, for two-thirds or more of the fermentation in honey is caused

by uncapped brood which is thrown into the honey in the process of extracting, thereby becoming a part of it, and truly an unsanitary part. I use queen-excluders on all colonies operated, or caused to be operated by me.

"Friend Wilder, were you ever present during the time of extracting honey in an apiary, where there were no queen-excluders used? If so, it is unnecessary for me to tell you of the filth, as you know much of the uncapped brood is thrown out; but if you have never witnessed such a sight, I would advise you to do so in order that you may truly appreciate honey that is taken from above queen-excluders. I believe that any one who is familiar with operating with or without queen-excluders would be willing to give from one to two cents a pound more for honey taken from above queen-excluders."

Wewahitchka, Fla. J. K. ISBELL.

Bee-Keeping—Salary

DEAR MR. WILDER:—How much honey did you produce this year and from how many colonies? Can a young man who understands the business make as much in producing honey as he would from a \$1500 yearly salary? F. W. MORGAN.

De Land, Ills.

My season's honey crop was 125,000 pounds of chunk, extracted and comb honey from 2000 colonies, or an average of a little better than 60 pounds. Your present salary is much larger than any extensive bee-keeper could afford to give you to look after his bee interests. To establish yourself in a bee-business, the returns of which would be as large as your present salary, would require some time, and not less than a \$3000 investment, even if you were to buy out an already established business. It would take, in a similar location to mine, 600 colonies, the returns of which might amount to \$1500, and you could do all the work; and perhaps you would have more leisure than you have now. But you would have to make the investment.

Wants a "Shove Off"

DEAR MR. WILDER:—A friend bee-keeper gave me your address and told me to write you, that you would give me a good shove off. I am a young man and a farmer, and have 5 strong colonies of bees, and I love them next to my family. I want to learn more about bee-culture, and make increase until we have enough bees to support us. Help me all you can now and I will make you glad later. J. W. GARNES.

Felton, Ga.

This young man is not far from where I was once in bee-culture. I had a great love for it, and a determination to succeed, and this is the secret of my success. I was not a very strong man in intellect, however I had a natural love for the culture of bees, and enough determination to succeed. A man with "willing hands" and deep interest in his business doesn't need much of a shove off. He needs only to know whether there is any money "at the other end of the rope."

Any man can be sidetracked in almost any line of business, and especially in bee-keeping. All of my friends came to me when it was generally known that I had "thrown up" my good job as head mechanic for a large concern for the purpose of embarking

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upon extensive bee-keeping, and begged me to give up my idea and go back to the shop to work or to enter some other line of business where the opportunities were great. Even my wife joined with them, and said my mind was a little overbalanced, but none of these things moved me, and no regrets have followed except that I wished I had started sooner.

I mention these things for no other purpose than to show to what extent a

person must be determined on a pursuit if he expects to succeed.

The Partridge-Pea as a Honey-Plant

The picture shown here is a snapshot taken by the writer while visiting bee-keepers, and shows the partridge-pea growing in all its glory. It shows how it grows on the mountains in Dixie. There are two well-known spe-

cies of partridge-pea. One that grows on low, damp land where the water stands near the surface. It grows mostly in sections where there are lakes and along the coast, and is distinguished from the other by its ragged leaves, and it does not grow as tall.

This species does not secrete nectar, while the other plant grows from 18 inches to 5 feet, and on higher land, and is perhaps the greatest nectar-yielding plant known. The plant blooms profusely, but does not yield its nectar through its bloom, but through nectar-cells at the bases of its leaves. Here it collects in drops and runs down to the ground during the night or damp, cloudy days.

The greatest mystery about this plant is why the bees do not gather more honey from it, as it yields so heavily, and the duration is so long, about 100 days. But the bees do store from one to three supers during its flow of very fine, light honey. The flow begins in June and lasts until about the first of October.

The point I want to make is that a very large section of Dixie would be almost a desert so far as bee-keeping is concerned were it not for this plant. It grows out over the forest and uncultivated land in the poorest sections of our country; thus making bee-keeping possible even in seemingly the most unfavorable sections. It is not always a sure "hit" for its honey, but by taking several seasons in succession it makes bee-keeping profitable. Then, too, there are two other minor honey-plants which grow on the same kind of soil, and these very often give a yield of nectar that makes up fully for the partridge-pea during its off seasons.



WHERE THE PARTRIDGE-PEA GROWS RANK.

CONTRIBUTED



ARTICLES~

Improving the Bee

BY ARTHUR C. MILLER.

Now, what do you think of a man wanting to improve the bee? Why, all one has to do is to decide what kind of a bee one wants, and pick it out. If one is wanted that is kind, tractable, quiet in harness, won't kick, bite, or balk, select the Carniolans. They are neat in their habits, do not daub up their hive with propolis, and build paper-white combs. To be sure, their coat is but a somber black, trimmed with soft, gray fur, not striking, but good and serviceable.

Or, if one wants a similar bee, but one that properly guards its doors, just take the Caucasians. Regular gummers, these fellows, and one might, perhaps, do well to keep them for the business of raising varnish gum—though he might have to dynamite his hives to get the gum out.

Or, mayhap, one prefers a thing of beauty, the glitter of near gold, and therefore picks the sparkling goldens. Nice, playful fellows, these, and one

needs a fine quality of sheet steel armor with them, for they are prone to be very rough in their play. But they are mighty nice to use when there are other bee-keepers around you, for as sneak thieves, they are far and away ahead of anything yet invented, and will pack their hives while those of the neighbors grow beautifully light.

If none of these suit, take some of the old standby, leather-colored Italians. Nice, steady fellows, who mind their own business and do not consort with the festive bee-moth. And if you get the right strain, you will have good, heavy supers and a lame back. We will not mention the sprained fingers and wrists from trying to shake these fellows from the combs, nor will we say a word about the way they perforate cappings when we try to take off the sections.

You, who would specialize on comb honey can pick out the good, old blacks, the bee that gran'ther used to keep. They shake off so easily; in fact, they fairly tumble over each other and you, in their anxiety to get off of the combs. It is real sport to find

their queen, when one has not another blessed thing to do for a whole, long week.

And yet there are those who assert that the honey-bee is not variable, that she is unchanged and unchangeable. There rises to the mind's eye two apiaries which it might profit the persons who hold that view to visit. Both lots are Italians, and beauties, too, well cared for and well handled. The first lot can be handled at any season in any weather, flow or no flow, with scarcely a vestige of smoke. An ideal lot, assuredly.

The bees of the second lot are most excellent workers, but the Old Nick himself couldn't stand their heat. They meet you far from home, and escort you most attentively. Blow smoke in at the entrance and there rush forth myriads of the ugliest stingers man ever met, and no skill, no method, serves to subdue them. And in the face of this some persons would still have you believe that the honey-bee is not variable.

In color, in habit, and in behavior, the honey-bees vary as much as most kinds of animals and plants. Some of the traits of some races, and other traits of other races, are of advantage to us. If, by crossing and selecting, we can combine and fix the desirable characters, and eliminate the undesirable, we "improve the bee." And there is just as much possibility of doing this with bees as with other animals.

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It is not a question of creating a new organ, or of radically changing the size or shape of the bee, but a question of combining all the good traits and leaving out the bad.

We speak of good honey-gatherers as if such bees possessed physical characteristics which were responsible for their work. It is more probable that the good results are due rather to a nervous energy. That some races are better honey-producers than others is pretty well known, and is evidenced by the widespread use of the Italians instead of blacks, Carniolans, etc.

That some strains of the same race are superior to others in honey getting is disputed, and superior results are attributed to "manipulation" or "management." In the opinion of the writer this view is erroneous, and his opinion is based on many years of careful observation and comparison. In support of this contention, I would cite my system of bee-keeping and the results. With few exceptions, all colonies are requeened in August of each year with queens which have just begun to lay. This ensures uniformity of colonies the following season. The occasional colony which may be below normal size in August is brought up to the average when the queen is put in, so that all start evenly. The following spring, save for a cursory examination at the entrance and across the tops of frames, the bees are not manipulated—they don't have to be. Supers are put on before fruit bloom, and the bees left to go it alone, save for getting honey off and putting on more supers.

With such a uniform start, and such a "let alone" management, every colony shows what it is good for. To be sure, whenever the hives are close together considerable mixing of bees occurs during a good flow, but not enough to materially affect the results. Under the above conditions, when all colonies of a certain strain, regularly on every flow, show greater amount stored than any other strain, we must assume that they are superior workers to the rest. And when this occurs, season after season, the assumption becomes a certainty.

I chance to have in one apiary three strains of bees, and several colonies headed by daughters of one of these strains mated to still another strain. One strain is especially commended for vigor and hardiness, another for gentleness, and the third for wonderful work, and the daughters referred to are from this latter. Every colony of this strain, and of these daughters also, has kept well ahead of the others. Is it not right to consider them superior honey gatherers?

Granting that bees can be "improved," the objection is made that few bee-keepers are so located that they can get pure matings, and, furthermore, that because the individual male cannot be selected, progress is impossible, or, at best, uncertain. Results belie this. Some bee-keepers have achieved marked results in the work of their bees, others in gentleness, and others in color.

It was the settled conviction of the late Henry Alley that queens mate within a very few rods of their hive, and that it is the drones that wander

afar. My own experience supports this view, and, furthermore, I believe that the flight of the drones is largely controlled by the prevailing winds and the contour of the country.

One apiary which I maintained for over 20 years lay close to the west shore of a large sheet of water. The prevailing winds were southwest. Black bees were abundant one-half mile north. No bees west or southwest, and a few

some strains are better than others on certain flowers. I may be wrong, but I propose to find out.

I have no bees or queens to sell, for if I produce any "infant prodigies" in the bee-line, I do not want them to cause worry and loss of sleep to those who doubt. But it's well to be "from Missouri" sometimes.

Providence, R. I.



A PRACTICAL DEMONSTRATION AT TORONTO.

a mile due south. Year after year I reared queens there, and mismating was so exceedingly rare that when it did occur it was a genuine surprise.

So mobile is the bee in my hands that I have gone about the work of building up a series of apiaries of different strains with as much confidence as if I were handling cattle.

Demonstrating Bees at Exhibitions

BY F. E. MILLEN.

One of the portions of the Apiarian exhibit at the Canadian National Exhibition, held at Toronto a short time ago, was the demonstration of the



F. E. MILLEN POINTING OUT THE DREADED EUROPEAN FOUL BROOD TO TWO YOUNG LADY BEE-KEEPERS—SYMPTOMS AND TREATMENT ARE ALWAYS FULLY EXPLAINED.

It may be asked why I care for several strains? I want pure stock for crossing, and also I want to try out pure stock of my own rearing on the different fields, as I have a notion that

handling of live bees which was conducted by the Ontario Agricultural College authorities.

A large screen cage for the purpose was built, and a colony of bees pro-

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vided for the demonstrator, in order that he might show what could be done.

The interest of the spectators was plainly evident, and to the uninitiated it seemed miraculous that a man could handle so many thousands of bees and not get stung. Many of the people wanted to know how they were tamed, or how the stings were taken away from the bees; another would ask what we put on our arms, etc.

Sensational methods were discarded, such as appearing half-naked; our aim was to show people that any one with a sufficient interest and courage can handle bees without getting too badly stung. Interesting points of the life of the bee and work of the bees were explained, and their usefulness demonstrated.

At every demonstration we drew a crowd of from 50 to 100 people, and many enquiries were made as to keeping bees both as a hobby and as a business.

Guelph, Ont.

Queen-Rearing Pointers

BY FRANK F. FRANCE.

Is not the subject of bee-keeping like a game of checkers? Are there not certain moves to make to get to the king row? I would say yes in both cases. The first and best move to make is to provide each colony with a good, young, laying queen. A queen that does good work is one that produces a hive full of bees that *work*. I once had a queen, and one of a high type of breeding, that produced a strong colony, but her bees did not secure more than enough honey—the whole summer long—to live on, while colonies all around her filled three and four supers. Such a queen should be killed at once, even though she appeared good.

There is a great study before us when we work out and compare the lives of different queens. There is as much difference in the personality of bees as there is in people. It is wonderful to watch half a dozen colonies and observe their differences and likenesses.

One of the most important features is to have your queens as nearly alike as possible, both as to breed and age by securing them from some reliable breeder. Breeding queens should be changed every year to secure the best results.

I have been asked by many bee-keepers to explain some of the methods I use in queen-rearing; also to explain how I use a little device to do away with a large share of queen book-keeping. This device, as pictured here, is the invention of Mr. H. Perkins, of Artesia, Calif., and is the best device I have yet seen to do the work required.

To begin with, I secure good breeding queens from excellent stock, and if they come up to my standard as good layers, with well-marked bees that *work*, such are used for breeders. By importing new stock and changing breeders every year, and also testing them for honey gathering, I have stock that is worth while.

As the temperature here in the North is generally cold, I do not begin my cell building until the latter part of May or the first of June, when drones are plenty and there is little dandelion honey coming in. From this time on until the middle of August I put out cells on the average every other day, but in the height of the flow I put out cells every day.

To produce the best, long-lived queens that bring results, larvæ not more than 24 hours old must be used

division-boards and a super, thus making four (two-full-Langstroth) frame nuclei, each division having a separate entrance and cover. The entrances are so arranged as to have one on each side and end. Over all is placed a full cover. Figure No. 1 will illustrate this point more fully.

As the season advances and the weather becomes warm and settled, I use a twin nucleus hive. This hive is made on the same principle as the Root twin hive, only the frames are

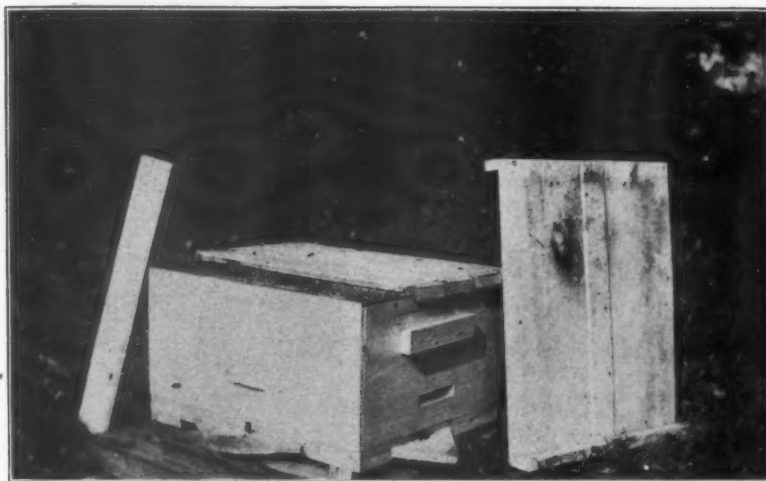


FIG. 1.—REGULAR SUPER ARRANGED TO MAKE FOUR TWO-FRAME NUCLEI.

for starting cells. All cells are raised in full colonies under the swarming or supersedure impulse. These cell-builders are made extra strong with brood from other colonies, so that there is an over supply of nurse-bees that will thus provide the proper amount of royal jelly for each cell. All colonies and nuclei are fed to imitate a good honey-flow (if there be none);

made one-half a standard frame instead of one-third. I have a great many more bees to keep the brood warm, a larger space for the queen to lay in, and I have less swarming. The division-board is made of plate tin with an oilcloth fastened to the top to overlap each side. Over all is placed a telescope cover.

Fig. 4, next page, will show how the

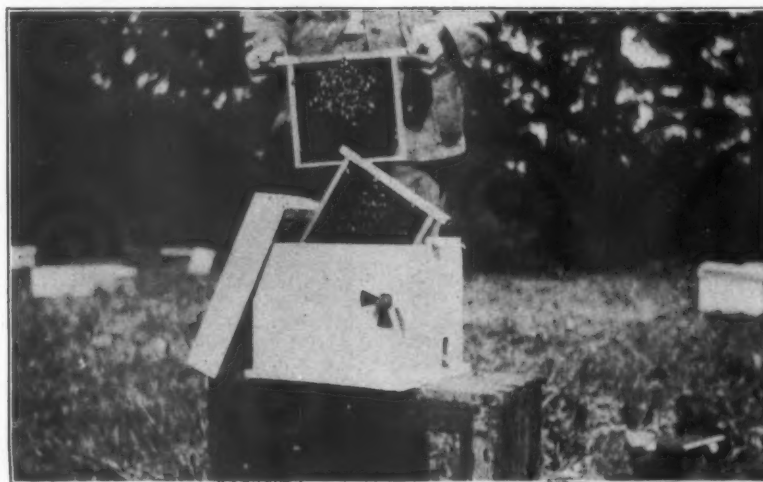


FIG. 2.—VIEW SHOWING SIDE OF FRAMES.

about half a quart of feed in the evening of each day. The best results cannot be expected unless this is done.

The subject of the proper sized nucleus here in the North is of great importance. During the earliest and latest periods of the year I use a common 10-frame super with three tight

frames fit in a standard frame, and can be used as such if need be, also for the purpose of drawing out extra comb for more nuclei.

One of the most important features of queen-rearing is the book-keeping, especially if a record is kept of each individual nucleus. The little device

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shown Fig. 2, is used to do away with a part of this work. It is made of tin, with a small knob to turn each wing out as desired. Each wing of the signal is painted a different color, as red, white and blue. In connection with the signal I use a small piece of cardboard tacked on the side of the hive numbered in a half circle as this: 1, 3, 6, 9, 12, 15, 18, 21, 24, 27, 30 with a wire bent to point to any one figure or to any third day in the month. For instance, suppose the signal indicates that there is a virgin (the white wing), and the hand points to 15, it would mean look for a layer the 15th, when the signal can be turned to the red, meaning laying. The blue indicates a cell. After the queen has begun to lay the entrance queen-excluder is pushed down over the entrance, thus holding her in case of swarming.

Platteville, Wis.

Improvement in Bees

BY E. S. MILES.

Referring to the discussion of improvement in bees. I cannot see how a man who believes an improvement possible can be compared, by Dr. Bonney, with those who believe in "the divine right of kings" or "the divine right of slavery." I would, on the contrary, put the one who says that it can't be done along with those who said that slavery or monarchy could not be abolished.

Because the Doctor has failed to pick out a queen whose progeny would be like her, he should not conclude that others cannot. It takes close observation to determine that a certain colony has the qualities we want in a sufficient degree to warrant the belief that they will transmit the same to their progeny if properly mated. I cannot see how learning the different theories of breeding could help a man in the breeding of animals unless he had this ability to pick out the ones having the traits wanted in sufficient degree to perpetuate said traits. The argument that a colony will produce a large crop one season and be worthless the next only shows that the Doctor has taken his experience with mixed bees. With that kind I have the same experience, and that is just what I want to avoid by selective breeding.

I want a bee which is thrifty, can accumulate a little when the common bee cannot; for such a colony will give some surplus almost, if not every year. That is why I mentioned a colony, No. 16, which never fails to pay me something because they have that very thrifty disposition.

They do not boom up, make preparations for swarming as most common bees do (bred by themselves under this impulse), but they are always on the lookout for nectar, and when the flow does come they are always ready, and seem to bend all their energy to storing honey instead of swarming. The Doctor claims that these bees won't perpetuate their kind, because they are "wild by nature." I cannot see why my No. 16 is any wilder by nature than my Duroc Jersey hogs. In 10 years they have stayed in this same

hive, superseded their queen three times, and have never been out of the hive in that time except in quest of stores. They are always there. I know where to find them, and my hogs have to be kept at home by fences. If I neglected my hogs, as some neglect their bees, I would soon have hogs "wild by nature."

With such arguments as the Doctor uses on page 272, of the September American Bee Journal: "While we always have had the bee just as it is now, and especially that branch known

tendency toward swarming. It may be the Doctor expects too much in the way of improvement; it may be he expects us to have bees as large as robins, and able to carry a half pound of nectar at a trip. Improvement in bees doubtless will come, as in other animals, gradually.

He says: "I do not deny that it is possible." If it is possible, then it can be done. He quotes several men who admit their ignorance as to whether there are improved bees, yet he discredits those of us who claim to have

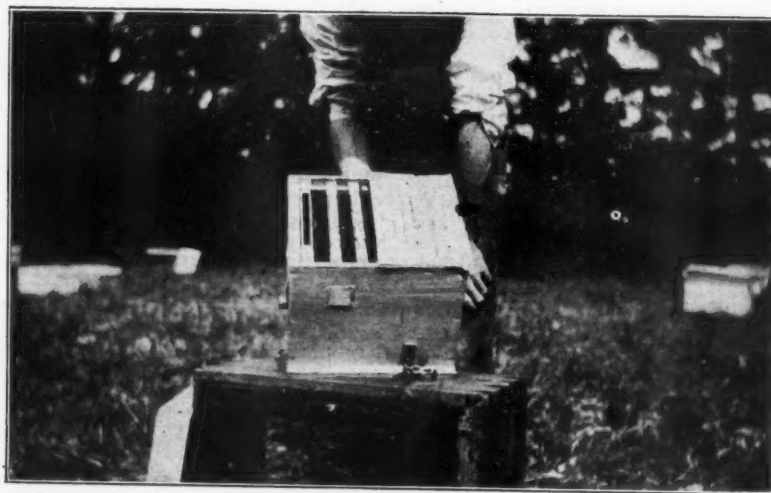


FIG. 3.—THE CONSTRUCTION OF THE HIVE, FEEDER, FRAME, ETC.—(See page 371.)

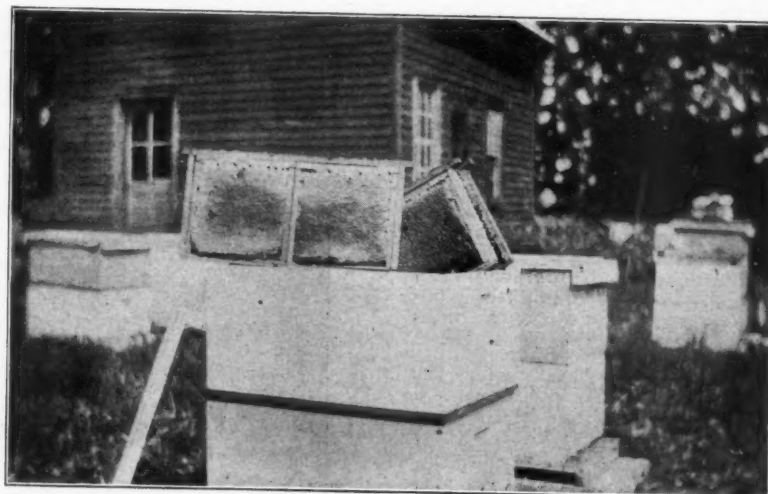


FIG. 4.—THE NUCLEUS FRAMES FIT A STANDARD FRAME.—(See page 371.)

as the *Apis* family, we can trace the development of some of the domesticated animals through the ages, as the horse, for we find the bones of the original *Equus* fossilized in the rocks," there is not much chance to get at the truth, for that is just a guess. It matters not how learned a man said this. I assert that such statements are just plain guesses.

We do not know what the bee was 5000 years ago, as to color or habits of industry or swarming, etc., but we do know that there is a great variation now between different colonies as to hardiness, gentleness, industry, and

accomplished some improvement, as "a few men, and some professional queen-rearers claim much, but I defer vastly more to the opinion of professional bee-keepers." Who are professional bee-keepers? The late Mr. Hutchinson, generally admitted to be one of the most advanced bee-keepers in the world, advertised for years a "superior stock" of bees. Are Dr. Miller, Mr. Doolittle, or Mr. Howe "professional bee-keepers?" They believe it possible and profitable to improve the bee by careful selective breeding.

Practically every one who has tried intelligently to breed from the best stock believes it easily possible to have

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a strain of bees "superior to common bees.

"Mahagement," as the Doctor thinks, is a whole lot, but not, as he infers, the whole thing; else why could he not have like results every year? Cannot one "manage" a colony the same every year? But suppose one strain yields one-third or more surplus with the same management than another strain, and does it year after year? Is not that an improved bee as compared with the other? Our improved live stock give more flesh or milk, as the case may be, for the like amount of feed than do the "scrub" stock; hence they are an "improvement" over the scrub stock.

"Such colonies as produce regularly more bees than are secured by natural selection are improved bees. I believe

are superior as to honey-gathering and non-swarmling to bees bred from natural swarming. For six seasons I have depended for my sole support upon the bees, and as I did not have enough colonies of this strain, I have yielded to the temptation to keep over some of the best colonies of the common bees that I should have requeened.

I have, however, gained control of my neighborhood by purchasing most of the bees around here, and still hope to increase my stock of selected bees. I am not trying to advertise, and have no bees or queens for sale.

I notice where bee-keepers are behind the times, and use the old-fashioned way of increase by natural swarming, that their neighbors generally have bees, if they want them enough to hive swarms. With this condition one can-

advertising is guess work, for no man alive can tell the result, the *drawing power* of an ad, until after he has been permanently separated from his coin. His answers may cost him 10 cents each; they may cost him twice what the article is worth that he is trying to sell, or twice the retail selling price, if that be so much as one dollar, and yet it may be a "good" ad; that is, it may be well written, properly arranged and displayed, and in the proper mediums, but some way does not *draw*, and the venture is a failure.

A writer suggested that the bee-men of the United States raise a fund to advertise honey. It will never be done, because it is not a practical scheme. It would cost too much. Fifty thousand dollars would not be a start; I mean \$50,000 a year, while I opine Mr. Foster had a simple sum of that amount in mind when he wrote about it. I like Mr. Foster's writings. He is practical, sensible, entertaining, but in this one case his hope had run away with his judgment. The sum will never be raised; for while there are many who would cheerfully subscribe one, two, or even ten dollars for each ton of honey they produce, they know that a few persons only would have to pay all the tax, and to invest under such circumstances would not be good judgment. While it might be tried once, I doubt seriously if they could ever get together another fund, unless such advertising were vastly more productive of results, *immediate* results, than my judgment tells me it would be.

If the scheme were practical, the first question would be, "Where shall we advertise?" and the answer would be (selfish interest), "In my locality, or where I may benefit." Mr. Foster would want some of it. I should like to see some of the money applied here. California bee-men would naturally look out for their interests, and that miserable little \$50,000 would look like a pound of honey set in the midst of a hundred hives when a drouth is on.

The real good magazines, the *big* ones, like The Ladies' Home Journal, get hundreds of dollars for each page that they print. I have been told that this particular publication gets \$1000 a page a month. Even with their tremendous circulation they reach but about one percent of our great population. This is but one of thousands of publications issued in the United States. Fifty thousand dollars would not put a small ad in enough of them to reach one-fourth of the population of the country *once*.

If we had the money to make an aggressive campaign, I doubt seriously if it would pay, because we have *nothing startlingly new or novel* to exploit; because we have not a sufficient margin of profits between the cost of production and the selling price. With the money invested and the time employed, the bee-man who receives \$1000 a year for his honey has little to spare for advertising.

This brings me logically to the things advertised in the papers and magazines, their cost (probable), and the selling price, retail (known). Let us take the first breakfast food put on the market, if my memory serves me. They have the public so into the habit of buying it that they do not now hesi-



FIG. 5—HOW THE SIGNAL AND NUMBER CARD LOOKS.—(See page 371.)

"like will produce like" in bees as much as in other things. They claim that we cannot control the male parentage. But we do not fully understand the question of mating. On page 274, Mr. F. W. L. Sladen says "the difficulties of mating might be overcome by isolation, but this cannot be done in settled districts," just where we wish to test for honey-gathering. I believe Mr. Sladen is mistaken in this. I believe there are neighborhoods where a bee-keeper has the field so completely to himself that if he will rear drones from the best stock only he will in the great majority of cases have his queens properly mated.

I am not a believer in the theory that young queens go several miles to mate. In fair to large apiaries the young queens certainly mate not far from their hive. The breeder, therefore, can control the male parentage by furnishing *all*, or near all, of the right kind of drones, and *none*, or as near none as possible of poor stock. Allow me to give my own personal experience. "Seeing is believing." What one *sees*, what one *handles*, is the thing one really knows, if one knows anything.

Beginning with one good queen 15 or 16 years ago I selected colonies with queens as near like her as I could get for breeders. And in spite of the fact that I have kept some common stock which furnished drones all the time, I have quite a number of colonies that

not breed bees, as, of course, the field will be stocked with all kinds of bees except the best.

I have kept bees 18 years, and my neighborhood gets freer from other bees the longer I stay in one place. I aim to keep the field stocked with *rustlers*, and the other fellow must either keep better *rustlers* or take better care of them.

In conclusion, let me report 5½ tons of honey for the past season from 200 colonies, and an increase of 50 colonies. The Doctor, located near by, reports the season a "perfect failure." They say "money talks." *Honey* is nearly as good as money now-a-days.

Dunlap, Iowa.

Advertising Honey

BY A. F. BONNEY.

I have no hesitation in confessing that I was once caught by the fine advertising of a Correspondence School, and parted with some of my good money to take a course in Ad Writing. Had I had robust health I think I would be at it yet, for I soon had a position paying \$115 per month.

This is my excuse for writing about selling and advertising honey, for I have had good success in disposing of honey, as well as other goods—by advertising.

I shall start with the proposition that

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tate to tell that it is made of corn, wheat, rye, etc., ground, made into cakes, baked, then broken up and roasted. There is a little sugar in it, a little salt, but if you try to eat it without the sugar and cream recommended—well, don't.

The manufacturers of this dope make great claims for it, and that, among others, it improves the nerves. I believe it, and that the manufacturers eat largely of it, else they could never make the claims they do. Let us analyze it. The average cost of the cereals, as they buy, is far below *one cent* a pound. But let us allow that small sum, then another to cook it and put it into the cartons. It sells, or used to, for 15 cents a package, or about 10 to 15 times the first cost without the advertising.

Let us take something with which I am even more familiar—patent medicines. I assert positively, and I can prove that the average patent medicine which costs the customer \$1.00 does not cost the manufacturer 10 cents, advertising and all after the business is established, and there are some medicines which allow a still larger margin, as pills and some of the dry "teas."

How much, think you, do these firms pay for advertising? I was once informed that a now famous patent medicine concern had paid out half a million dollars in advertising *before the ground was broken for their buildings*, and I believed it, for the papers were full of their pictures long before I had a bottle of the stuff on my shelves.

Where is the margin of profits to enable the bee-man to pay out much for advertising in his own locality, let alone joining in a national scheme? "Corn syrup" is possible, because they can sell it for something like \$2.75 the hundred pounds, and make a *clear* profit that would make a bee-keeper dizzy with envy; but the amount of money necessary to erect and equip a "corn-swindle" plant would buy every hive of bees in the State of Iowa at a fair valuation. It takes money to make money. A profit of a cent a pound on millions of pounds is *big business*, while a profit of 5 cents a pound on the amount of honey per colony produced by the average bee-man will afford him a slim living unless he has several hundred colonies, knows how to handle them, and has good luck in having profitable seasons.

We have many things to overcome besides swarming, bad seasons and disease among bees. In the mind of the average person not a honey-producer *honey is a luxury*, and—call me traitor if you will—with section honey at 12½ to 25 cents a pound it would be to me, with my income. It is a luxury to the very large majority of the people of the United States, especially where there are children in the family. Declaring in an ad that "honey is cheap," does not make it so.

There are seasons when the honey crop is an almost total failure over a large area, and when the supply of an article is exhausted, one may as well pull down his advertising. No merchant would for a minute listen to any proposition in advertising where the supply was held up for 18 months at a time. In this connection, did you ever

stop to think that the supply of corn iniquity, be it glucose or booze, is constant and unlimited?

There is, however, a way to bring our product to the attention of the world, and that is for each and every bee-keeper in the country to study advertising and become an ad writer, and it is not necessary for him to take a mail course, either. Let him briefly and plainly tell his customers what he has to sell.

1. Don't quote prices unless you are obliged to, or unless you are offering a bargain.

2. Don't lie, for your mendacious chickens will come home to roost to your sorrow and shame.

3. Don't forget that brevity is the soul of wit in nothing more than advertising.

4. Don't brag about your output, for some one may not believe you, and every one despises a liar.

These are a few negative hints about advertising, and here follow a few suggestions. Shall I commence with

PURE HONEY

It should be enough to the average person that honey is in the comb; but while that old canard about artificial comb honey is perhaps exploded, there is a hereditary distrust in the minds of the present generation that there is a possibility of adulteration in even the snowy comb. Fortunately we have an irrefutable argument in the Pure Food Law, and it should be worked to a finish. So let us add to our ad

PURE HONEY

*Guaranteed Under Pure Food Law
from the
Italian Bee-Apiary, Beetown, Iowa*

Do I hear some one say: "That is nothing but a label!" Well, what is a label but an ad? Admitting the impeachment, let us see what we can add to the ad to make it more attractive, more enticing, more *pulling*.

Most persons, in writing an ad, think that they must use up every available inch of space for words. If you will observe advertisements in expensive mediums, you will see that there is vastly more white paper than reading matter, possibly one part of black to 10 of white, and they are paying probably \$500 for the page. Why is this? Because very few persons will read a long ad unless they are mightily interested, and, let me grieve, it is hard to get people intensely interested in so common a thing as honey. They know what it is, where it may be bought, the price, and if their appetite craves it they will buy; all we can hope to do is call their attention to it at a time when we can supply a demand.

As the bees in the United States are credited with an output of \$25,000,000 annually, which is but about 25 cents per capita, the *National demand must surely exceed the supply*. With a commodity so well known the fewer words you use in advertising the better. That is a cold fact. In many cases you need but the one word HONEY, but, that one word

must be over a display of FINE honey in a store window. I have advertised here in that way for a long time, making and giving to the store-keeper a case with a glass front to hold 100 pounds (sections), and the word HONEY in black letters 4 inches high on a board and 6 inches wide on top of the case. Later I got up some postal cards which I sent to the farmers adjacent to town, making them myself.

A cut of some kind adds to the attractiveness of an ad, and there is nothing more appropriate to a bee than a bee or a hive, or both, and in the way of a hive nothing is better than a skep. It is more poetical, but other pictures



ADVERTISE YOUR HONEY

into which bees come are all right, and I will add some outline suggestions. I have lost my skill with the pencil from 30 years of idleness.

I recently read that farmers should be expected to buy by the 60-pound can! There is not one man in a hundred who will, the country over, buy in such large quantities any more than they will buy sugar by the sack. Not as much so, for honey is a luxury. Here, in one of the richest portions of the United States, my customers buy almost entirely in 10-pound pails.

WE WILL PAY

\$1.00 A DROP FOR

*Every Drop of Adulterated
HONEY*

Offered for Sale in this Store

In this ad the words, "We will pay \$1.00 a drop for honey," to be in large letters; the other, "Every drop of adulterated," in small. "Know what you want to say, then say it," is a good rule in literature, and a good one in advertising.

I here append a hint for a good, short, circular letter. I should have it in type imitation, and paper the size of

American Bee Journal

letter paper, 8½x11 inches, and allow 1½-inch margin on the sides, at least. Two or three cuts of bees scattered on the margin would help to attract attention.

PURE HONEY

from the

ITALIAN BEE-APIARY—BEE TOWN, IOWA.

When I say "PURE HONEY," I mean that it is honey gathered by the bees, stored by the bees, and ripened in the hive by the bees; and its purity is assured by the *Pure Food Law*.

More than this, however, it is WHITE CLOVER HONEY, and that is the best that can be said of honey. There are other good honeys for those who are *not* critical; but for nice people, persons of refinement and taste, the clover honey is the only one which *exactly* fills the bill.

I have it in sections as well as 10, 30, and 60 pound pails. A. B. BEE,
the Bee-Man.

I am dealing with local advertising entirely, and I honestly believe that this is the only kind that will pay the average producer, the man who has from 500 to 1000, or, at most, 2000 pounds to sell, the man who sells all his honey to his neighbors, and, possibly, some of it through the stores. If he has more, and wants to find a new customer, a want ad in the bee-journals will do the business.

Everybody will read a one-word ad because they cannot help it. Therefore, the fewer words you have in an ad the more readers you will get. Why give them a history of your family? Why tell them how you produce your honey? Why abuse "Korn Syrup with a Kane flavor," which smells like a slop-bucket if you boil it? Why abuse your brother bee-men, if you have any? Take a sheet of paper and put on it what you

are going to advertise. Honey; the kind; add some pleasant remarks; also a picture, and if you don't want your *mug* to be seen, put on it a picture of a bee or a skep.

Buck Grove, Iowa.

Apiarian Exhibit at the Spokane Interstate Fair

BY GEORGE W. YORK.

It was my good fortune to attend the 19th annual Interstate Fair held at Spokane, Wash., Sept. 30 to Oct. 6, 1912. Taken both as a whole and departmentally, it was one of the very best Fairs I ever attended.

But what will specially interest readers of the American Bee Journal are the exhibits of bees, honey, and beeswax illustrated herewith. They were located in a very good place, so that no one could miss seeing the display.

There were seven exhibitors—all from Washington, I believe. The total amount of cash premiums offered was \$165. Prof. H. F. Wilson, of the Oregon Agricultural College, was the judge. Mr. L. C. Barrett, of Spokane, was the courteous superintendent of the Apiary Department.

At least two of the exhibitors at this Fair deserve special mention. They are Mr. J. P. Kingsland and Mr. Robt. Cissna. The former, who is an enthusiastic city bee-keeper, spent considerable time in securing a variety of exhibits for the Apiarian Department, and the latter, who is a specialist bee-keeper, and runs a half-dozen apiaries, had by far the largest quantity on exhibition, and probably came the farthest to the Fair. He sold all his honey to an enterprising local firm in Spokane before the Fair closed.

An excellent start has been made in the exhibits of the Apiary Department. But it will be necessary to offer more

cash premiums before many bee-keepers can afford the work and trouble of making an exhibit worthy of three large States like Washington, Oregon and Idaho. No doubt the Fair management will increase the number of premiums as well as the cash amounts by another year, and thus attract more exhibitors from the ranks of bee-keepers in this part of the country.

Making apiarian exhibits at Fairs is one of the very best methods of advertising for bee-keepers. There is always a crowd of interested people where live bees are exhibited, and to have their product in large amounts beside the bees is a very effective way to impress people with the importance of the business. It has always been a surprise to me that Fairs do not encourage bee-keepers and bee-keeping more, by giving greater prominence to products of the apiary.

Sandpoint, Idaho.

[The above letter was received with accompanying picture and a list of the prize winners, that would be too lengthy for our columns. A private letter from Mr. York said: "I am tanned very nicely, as I have been out-of-doors all summer." Idaho life evidently agrees with him.—EDITOR.]

Two Recipes Worth Trying

COCOANUT PUFFS—Heat two cupfuls of granulated sugar with one-half cupful of cream, and add one-fourth cupful of honey. Boil until the ball will form in cold water; then remove, and beat a half cupful of grated cocoanut into it. Beat until creamy, and drop from the end of a small silver spoon on oiled paper.

PINEAPPLE DROPS—Boil two cupfuls of sugar with one cupful of milk and



VIEW OF THE BEE AND HONEY EXHIBIT AT THE SPOKANE INTERSTATE FAIR.

American Bee Journal

one-fourth cupful of honey. Boil until a ball will form in water, and then beat the stiff white of an egg into it. Add one cupful of chopped canned pine-

apple, and drop on oiled paper when it becomes firm. Press a black walnut-meat on each drop.—*Woman's Home Companion.*

work. I very much doubt if it is desirable to save the bees the work of carrying the honey from the lower story to the upper. That carrying is very likely a part of the process of ripening the honey.

DR. MILLER'S



ANSWERS

Send Questions either to the office of the American Bee Journal or direct to
DR. C. C. MILLER, MARENGO, ILL.
He does NOT answer bee-keeping questions by mail.

What Becomes of the Drone?

The October number of the American Bee Journal has just reached us, and the writer has read the article entitled, "What Becomes of the Drones?"

This is a question that is most opportune, for I have never heard any explanation other than that the worker stung the drone so that it might die when the season for gathering honey had come to a close; but your reasoning appeals to my sense of Nature's method of disposing of them by a less radical method, viz., the refusal of the workers to longer feed them the kind of food which they are able to assimilate or subsist upon. Naturally, starvation would be the result.

Not being a practical bee-keeper, I am at liberty to ask any kind of an irrelevant question. May they not be like the Japanese soldier who has served up to the time that his usefulness ceases and he commits hara-kiri? ILLINOIS.

ANSWER.—The answer to your question depends somewhat upon the meaning attached to the word "may," when you ask, "May they not be like the Japanese soldier?" It may be used to ask permission, as when a little chap in school I asked, "May I go out?" If used in that sense, I must answer decidedly "No." I can never give my consent to have a drone commit hara-kiri, and if ever any drone does such a thing I want it distinctly understood that it is entirely without my consent and advice, and I am in no way responsible for it.

But the word "may" may also have reference to the possibility of a thing. If used in that sense I must still answer "No."

Firstly, because most of the denizens of the hive are of the gentler sex, and the drone is too much of a gentleman to rip open his bowels in the presence of so many ladies.

Secondly, because he cannot rip without a ripper, and he has no ripper.

Bees and Strawberries—How to Get Started With Bees

1. What do bees really do for strawberries: just the same as on apples?
2. How is the best way to get started in early spring, by buying two or three nuclei or a pound of bees, and then later buy a good breeder of some reliable bee-keeper and requeen?
3. How long would it take to build up a nucleus to a good colony? INDIANA.

ANSWERS.—1. In some respects the work of bees on strawberry blossoms is the same as on apple blossoms; in some respects different. Apple blossoms are perfect; that is, each blossom has both stamens and pistils. Yet the stamens and pistils do not mature at the same time. Some varieties of strawberries have perfect blossoms, same as apples. If you should plant a whole acre with a single variety of this kind, and no other kind near, you would get a crop. Some varieties of strawberries have staminate, or male, blossoms. Under no circumstances will a blossom having only stamens produce fruit. Some varieties are pistillate, or female. Plant an acre of these, with no other variety near, and you will have no fruit. But if every fourth or fifth row can be staminate or perfect the pistillate varieties bear fine crops. But there must be insects to carry the pollen from the male to the female blossoms, and the bee leads all in this respect. Yet I must confess that generally I have not seen bees working on strawberry blossoms. Probably it isn't nec-

essary for them to work on them every day to produce a crop.

2. It is hardly practicable for you to get started very early in the spring unless you can buy full colonies near at hand. Indeed, on the whole that is probably the best way, and afterward you can change the blood if it does not suit you. If you have to send off a distance, then the nucleus, or bees by the pound may be best. But instead of getting a nucleus and afterward getting a breeder to introduce to the nucleus, the safer way would be to get the breeder with the nucleus.

3. Under favorable circumstances a 3-frame nucleus may be a full colony within a month or six weeks.

Constructing Hives so the Honey Will Not Need to be Transported to the Upper Story

What do you think of a hive constructed something like this: Let the upper and lower half of the hive be separated by a solid board with only a small opening between the two. The entrance will be in the lowest corner of the upper half. Now the upper half will be brood-chamber until the queen finally goes down into the brood-chamber. Thus the upper half will contain the honey, which will not have to be moved up by the bees, as is usually the case in an ordinary hive. If necessary, an excluder can keep the queen in the lower story after she has once entered it. GERMANY.

ANSWER.—Every now and then someone has conceived something of this kind with the idea that it will save work for the bees if they are allowed to go straight to the surplus chamber when they come from the field. But it does not work out in practice, as you will probably find if you try it; and I should advise you not to try it on more than a single colony. The pollen would most likely be stored in the upper chamber, and then laboriously carried down as needed by the nurses, making a great deal of extra

Maples as a Source of Honey—What Strain of Bees Winter Best?

1. What do you think of a locality from 1000 to 2000 feet above sea level where there is a large quantity of maple sugar produced every year. Would you consider it a good locality for bee-keeping?

2. Do you prefer queens of northern breeding to those from the South? Are queens from the State of Louisiana, or from any other part of the South, considered poor wintering stock?

What is the use of getting queens from the South to make up winter losses if they winter poorly here in the North? NEW YORK.

ANSWERS.—1. The maple is a valuable honey-tree. It comes early, however, and the honey secured from it is mostly used in brood-rearing. The field-force is not yet strong enough to gather much more than will supply the daily needs of the colony. So while it is of value in securing a strong force of bees, the question whether the locality is a good one depends upon what comes later. If there are plenty of later sources the maple will be a great help; if nothing comes after, there is little prospect of surplus.

2. There is very little complaint of queens shipped from the South being unable to stand rigorous winters in the North. In fact, most northern bee-keepers buy southern queens, owing to the fact that they can be gotten earlier from the South.

Making Increase

I intend to buy queens in the spring, from May 25 to June 15, and intend to increase by taking a frame or two from the old hive with old queen, and place the same in a new hive on the old stand. I will fill the hive with frames with full sheets of foundation.

Now the old hive on a new stand will be queenless. To this I will introduce a queen. That queen should be readily accepted, as all the old bees will have returned to their original queen on the old stand.

Do you advise this method of increase? If not, please give your way of doing it. NEW YORK.

ANSWER.—Your plan will work all right.

What Causes Wingless Bees?

1. What resinous substance is used on cement-coated nails?

2. Some young bees of most of my colonies were born without wings about July of this year. The hives had been raised a little for ventilation. Do you think they became



ONE OF JESSE H. ROBERTS' WINTER SHEDS AT WATSEKA, ILL.—MR. ROBERTS ON THE LEFT

American Bee Journal

chilled, or were this way because the feeding had been neglected, since there was not much nectar being gathered? The hives, especially some, contained considerable honey.

ANSWERS.—1. I don't know. (Rosin,—Ed.)
2. I must confess that this, too, is a little too hard a nut for me to crack. It hardly seems likely that the trouble came from the brood being chilled. I would rather guess it came from the heat before the hives were raised. Possibly it might be the effect of wax-worms.

Wintering Bees Near a Boiler

I have a cellar with a steam boiler in it. I can put the hives at one side about 20 feet away; can give plenty of fresh air.

How shall I fix the hives on top of the frames under the covers; will burlap do or do they need some chaff on top? I could put them near the boiler if it would be better. I can't find any one who ever wintered bees in a cellar where there was a heater.

NEW YORK.

ANSWER.—Very likely you will find that you can winter bees all the better for a heater in your cellar. At any rate I would rather not be without a furnace in my cellar after an experience of 10 years with one. If you have lots and lots of fresh air the bees will do well even if you cannot keep the

temperature below 50 degrees. It matters little, while the bees are in the cellar, whether they are covered with burlap or chaff, or have sealed board covers directly over the top-bars, or have no covers at all, with the top entirely open. Only, if they are closed on top there must be plenty of opening below. I have sealed covers, just as they were on summer stands, with 2 inches of space under the bottom-bars, and entrance the full width of the hive. If your entrance is small, then there must be ventilation above. It doesn't matter whether that top ventilation be made by allowing the air to pass out through chaff or burlap, or merely by shoving the cover forward so as to leave $\frac{1}{2}$ -inch space at the back end.

How to Keep Ants Out of Honey

How can I keep ants out of honey after it is taken off the hive? I took off some, and a few days later, when looking it over, I found it was covered with big, black ants.

ARKANSAS.

ANSWER.—Make a platform resting on four feet, these feet standing in old cans in which to keep water or oil. If you can trace the ants to their nests, punch a hole into the nest with a crowbar, pour in carbon bisulphide, and quickly cover over. But be careful no fire is near or there will be an explosion.

the Governor will not veto it this time; therefore, we must now try to influence the Senate and House. A good many of the men are new there now.

HERMAN AHLERS,
Necanium, Oreg., Nov. 6.

New Method of Transferring

Is this method new? To transfer from box-hives, nail a queen-excluder on the bottom of an empty super, cut the brood out and put it all edgewise in the super. Place this on a hive containing one or two frames of brood, the balance of the frames full sheets of foundation or drawn combs, with the bees and the queen. I transferred 50 or more in this way the past summer, sometimes putting 2 colonies in one hive. It worked all right. When the brood is all hatched, melt up the old combs. The American Bee Journal is surely fine.

Liberty, Mo. J. F. DIEMER.

[This is certainly a sure way of transferring. The only trouble is to have enough frames of brood in readiness.—EDITOR.]

Description of a Bee-Shed

I have built a bee-house in which to keep my bees, built in the form of a shed. It is 22 feet long, 5 feet high at the back, and 7 at the front, and faces the south. It is covered with Atlas roofing, and has a 2-foot canopy in front with shelf upon which I can place light swarms in the spring, so as to easily feed them. The house will hold 42 colonies, all told. The front is left open so that the bees can take a flight every warm day. I noticed this year that all bees kept in houses came through the winter alive and strong. My hives are all packed with forest leaves between and behind them, and forest leaves in the caps.

Watsaka, Ill.

JESSE H. ROBERTS.

[We prefer the shed with only one slope to the one with two slopes, as the former gives more sun to the bees in winter.—ED.]

Another Late Swarm

In recent issues of the American Bee Journal Mr. Byer and Mr. Eastman have told us about late swarms of bees. I had a large swarm in the early part of September. The swarm was hived in a hive filled partly with empty drawn combs and with combs of honey taken from extracting supers. The swarm was too large for one hive-body, and I gave it another filled the same as the first. Lately I confined the colony to one hive-body for wintering, and will give it all the feed it needs.

If I had Mr. Eastman's October swarm I would not let it perish. EDWIN BEVINS.
Leon, Iowa, Nov. 12.

Hopes for Bumper Crop in 1913

My report is very poor. Before my sickness I had 95 colonies of bees in fine shape, but last spring they dwindled down to 37, in very weak condition, but they have built up nicely this season. I have now 45 colonies in fine shape for winter, all of good stock and I have about 2000 pounds of surplus honey. So you see they did well in a poor season, and I hope for a bumper crop in 1913. White and alsike clovers, also sweet, look fine for a crop next season.

Matteson, Ill. A. P. WICHERTS.

An Ontario Report

The season is backward, and I am not through feeding yet. I will be at it a week or 10 days longer. Of 725 colonies over 500 are in shape for wintering, in so far as the stores are concerned; so with anything like fair weather I will soon clean up the bunch. My feeding bill is not as heavy as anticipated, as 6000 pounds will put all the bees in good condition. Of course, I mean the amount of sugar, not syrup. J. L. BYER.
Mt. Joy, Ont., Oct. 9.

Looking for Big Things in Vermont

Mr. J. E. Crane, of Vermont, the prominent bee-keeper and inspector, called to see me a short time ago. He said he believed that whoever had bees in good condition next spring would get the largest crop of honey

REPORTS AND EXPERIENCES



Kansas State Fair Exhibit

The Kansas State Fair held at Topeka last month was a grand success in every way, but especially so in the bee-keeping department. J. P. Lucas, the manager, had taken a great deal of pains collecting different kinds of honey, and this exhibit was quite a drawing card for many people, even some of the bee-keepers had no idea of the variety of honey that the bees could gather from different sources.

Orange honey had been sent by P. C. Chadwick, of Redland, Calif.; cotton and tupelo gum by J. J. Wilder, of Cordele, Ga.; basswood by the A. I. Root Co., hearts-ease and sweet clover from Nebraska; six kinds of white sage from 1910 crop, which had never candied, from A. Vogeler, of Oakland, Calif.; one kind from Fruitvale, Calif.; the lower part of the jar was light and clear, and the upper part was candied and almost as white as snow. Fine gum-tree comb honey, a sample of 1909 crop, which was a lemon yellow and very heavy, was exhibited. Then there was manzanola, light orange honey from the South, which was very firm; also sage comb honey, white clover, alfalfa, smartweed, Spanish-needle, and yellow clover from Kansas.

The department manager says that an other year he wants to make a larger showing of the different varieties, and would be pleased if any one having any other kind would send him a sample.

Another attraction was the different things put up in honey. Mr. Lucas had peaches, apples, plums, pears, tomatoes and corn put up in jars with honey. Some of these had been put up three years, and they were as fresh and as good as those that had been put up this year.

This goes to show what can be and is being done with honey. Let all the bee-keepers help the good cause along.

A BEE-KEEPER.

Bee-Keeping in Oregon

Bee-keeping is a new industry in this locality. Very few bees are kept, and they are mostly of poor stock and poorly managed. Many people do not know the value of bees as fertilizers, of the thousands of acres of fruit-trees which are in blossom here in the spring. We need more bees here—many more.

I made an exhibit at our County Fair of all kinds of bee-supplies, honey, both comb and extracted, etc. But the part of the exhibit which was the most valuable and the most interesting to the observer was the

live bee-exhibit. I had a full colony in a wire-cage, and showed the people how easily bees can be handled, or, rather, how they should be handled: movable combs, queen-cells, queen, drones, etc., were shown. My exhibit was near the entrance of the building, and people blockaded the entrance in their effort to see the bees and hear the lecture.

I got more orders for full colonies and nuclei than I had in my apiary. Of course, this is not a great bee-country, but it is a country in which the bee is indispensable. All you have to do is to show the fruit-growers that this is true, and they are willing to start an apiary even though they do not realize any direct returns from the bees themselves.

JOHN PASHEK.

The Dalles, Oreg.

Cleomella Angustifolia. Plant

I notice a honey-plant here that is entirely new to me, and no one here could give me a name for it, so I sent it to Washington, D. C., for identification, and they call it *Cleomella angustifolia*.

It seems to be a remarkable honey-plant. It was in bloom for more than 10 weeks during the dry season, and bees worked on it freely every morning. The blossom is very fragrant, sweet, yellow, and is at the tips of the branches. It keeps crowding out a new growth and blooming, forming small purse-shaped seed pods as the blossoms drop. The growth is much like sweet clover or yellow mustard, but forming a larger spreading top. Some plants grow 4 feet tall and 3 feet across, and an inch through at the butt, and very hard. It is an annual, and no stock of any kind will eat it. There is but little of it here, but it is spreading quite rapidly.

M. S. HUBBELL.

Helena, Okla., Oct. 15.

The Situation in Oregon

I noticed in the October American Bee Journal, page 311, this question: "Who is Inspector?" Kindly advise the Oregonian, who asked the question, to get in touch with Prof. D. F. Wilson, O. A. C., Corvallis, Oreg. The Professor is Secretary of the Oregon State Bee-keepers' Association.

The Association had a bill before the Legislature in 1911. It was passed by both houses, but vetoed by the Governor. We are preparing a new bill, and it was sent to me by the Secretary a few days ago for inspection. (I am one of the Directors.) It is very similar to the other one, but I am sure

American Bee Journal

they ever got. There certainly never was such a lot of clover, both alsike and white, and it doesn't seem possible that bees could go into winter quarters in better condition than just now. Hives are well filled with young bees. Mr. Crane is not the only bee-keeper in this section who expects a bumper crop next year. G. W. FASSETT.
Middlebury, Vt., Nov. 4.

Enjoys the Journal

I enjoy the American Bee Journal immensely. F. DUNDAS TODD.
Victoria, B. C., Oct. 22.

Has 50 Colonies and Good Crop

I have kept 50 colonies of bees for ten years with success, getting from 500 to 2000 pounds per year. This county is not one of

tho best in the State for honey. I live 11 miles from the famous Natural Bridge. EDWARD SULLIVAN,
Buena Vista, Va., Oct. 3.

Extra Good Report for Iowa

My full report for 1912 is 1500 pounds of extracted honey from 9 colonies, spring count, and increased to 14 by natural swarming. I took off the surplus arrangement the last week in August and gave them a chance to fill up for winter. They are now well supplied with honey. FRED BECHLY.
Searsboro, Iowa, Oct. 24.

Clover Looks Fine

White clover looks as fine as I ever saw it in the fall. I have 37 colonies of bees in fine shape for winter. JOHN G. NORTON.
Macomb, Ill., Oct. 24.



ANOTHER WINTER SHED OF MR. ROBERTS.

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Election of a representative to the State Board of Agriculture, at Trenton, Jan. 7, 8, 9 and 10, 1913.

E. G. CARR, Sec.

J. H. M. COOK, Pres.

New England Bee-Keepers Please Notice

A convention of bee-keepers of Southern New England will be held in Arcanum Hall, 152 Weybosset Street, Providence, R. I., Saturday, Dec. 7, 1912, 2:30 p.m. and 8 p.m.

Dr. E. F. Phillips, of Washington, D. C., is to address both sessions.

ARTHUR C. MILLER, Sec.

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PROGRAM—MORNING SESSION.

10:30 a.m.—Address by President, J. H. M. Cook, of Essex Falls.

"Gentle Bees"—Penn G. Snyder, of Swarthmore, Pa.

"Judging Bees"—Harold Horner, of Philadelphia.

Question-Box.

AFTERNOON SESSION.

1:00 p.m.—"The Hive in Winter"—Dr. C. D. Cheney, of Hoboken.

"The Relation of the State Entomologist to the Bee-Keeper"—Dr. T. J. Headlee, of New Brunswick.

"Bee Behavior," illustrated with slides, Dr. E. F. Phillips, of Washington, D. C.

"Management for Comb Honey"—W. Housel, Hampton.

"The Future of New Jersey Bee-Keeping"—E. G. Carr, of New Egypt.

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Remainder of season Golden Tested Queens **90c** each; Untested, **60c** each. Strictly no disease. Safe arrival and perfect satisfaction guaranteed.

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American Bee Journal

HONEY AND BEESWAX

CHICAGO, Nov. 18.—Sales of honey during November, up to this writing, have been of large volume, and yet the market is well supplied. Prices on No. 1 white comb range from 15¢@16¢ per lb.; A No. 1 to fancy, 17¢@18¢ per lb.; No. 2 white, 10¢@12¢ per lb.; No. 1 to fancy amber, 13¢@15¢ per lb. Dark and out of condition lots difficult to place at 9¢@10¢ per lb. Extracted honey in new cans and cases, white clover and linden, brings from 9¢@10¢ per lb. Amber grades, 7¢@8¢ per lb. Beeswax, 30¢@32¢ per lb.

R. A. BURNETT & Co.

INDIANAPOLIS, Nov. 16.—Fancy white sells at 18¢ in 10-case lots; No. 1 white 1¢ less; amber comb is in slow demand and at lower figures. Best extracted sells at 11¢@12¢ in 5-gallon cans. There is an excessive demand for comb honey, but very little is now being offered by producers, and it is surmised that some are holding for higher prices, but at higher prices the demand would cease. Beeswax is in good demand, and producers are being paid 30¢ per lb.

WALTER S. POWDER.

LOS ANGELES, Nov. 15.—There is only a small quantity of honey on the Coast unsold, but it should move out rapidly, as it can be bought at very reasonable prices, considering that the market is bare of white and water-white sage honey. We quote: Light amber sage, 6¢@7¢ per lb.; light amber alfalfa, 6¢ per lb.; white to water-white alfalfa, 7¢@7½¢ per lb. All f. o. b. Coast, dollar freight rate by rail.

Light amber sage, 6½¢@6¾¢ per lb.; f. o. b. Steamer San Diego, with 60¢ freight rate to

New York. Honey has been moving forward steadily, and the indications are that stocks will be practically exhausted long before any new honey is available.

HAMILTON & MENDERSON.

CINCINNATI, Nov. 22.—It seems that fruit and preserves have full sway of the market at the present time, owing to the low prices of these commodities, thus making the demand for honey suffer. However, we are selling fancy comb honey at \$3.75@\$4.00 a case. Our best grade of extracted honey in 60-lb. cans we are selling at 8½¢@9¢ a lb., and amber honey in barrels at 6½¢@8¢, according to the quality and quantity purchased. For choice, bright yellow beeswax we are today paying 28¢ a pound delivered here.

THE FRED W. MUTH CO.

KANSAS CITY, MO., Nov. 18.—The supply of both comb and extracted honey is large; the demand fair. We quote: No. 1 white comb, 24 section cases, \$3.25; No. 2, \$3.00; No. 1 amber, \$1.00; No. 2, \$2.75. Extracted, white, per lb., 8½¢@9¢. Beeswax, 25¢@28¢.

C. C. CLEMONS PRODUCE CO.

BOSTON, Nov. 22.—Fancy white comb honey, 16¢@17¢ per lb.; No. 1, 15¢@16¢. Fancy white extracted, 10¢@11¢; light amber, 9¢@10¢; amber, 8¢@9¢. Beeswax, 30¢. BLAKE-LEE CO.

SAN FRANCISCO, Nov. 20.—The demand for comb honey has not been so marked, although plenty has been offered, and the prices are as follows: Fancy No. 1, 15¢@16¢; No. 2, 13¢@14¢; dark comb, 11¢@12¢; water-white extracted, 8¢@8½¢; light amber, 7½¢@8¢

per lb.; amber, 6¢@7½¢; lower grades, 5¢@6¢. Beeswax, 27¢@30¢ for nice yellow wax, and 23¢@26¢ for dark.

JOHN C. FROHLIGER.

CINCINNATI, Nov. 18.—The demand for comb and extracted honey is fair, with a good supply. No. 1 white comb honey selling in large lots at \$3.60 per case, 24 sections; there is no demand for off grades. White extracted honey in 60-lb. cans is selling from 9½¢@10¢. Light amber in barrels from 7¢@7½¢; in 60-lb. cans from 8¢@8½¢. Beeswax in fair demand, selling at \$33 per hundred.

The above are our selling prices, not what we are paying.

C. H. W. WEBER & Co.

NEW YORK, Nov. 18.—Comb honey keeps in fair demand for all grades at unchanging prices. The various grades of white honey are still coming in, while buckwheat seems to be extremely short. Extracted honey is in fair demand, with sufficient supplies of all grades except California white sage, which seems to be scarce this season. Prices run the same. Beeswax quiet at 30¢@31¢.


HILDRETH & SEGELKEN.

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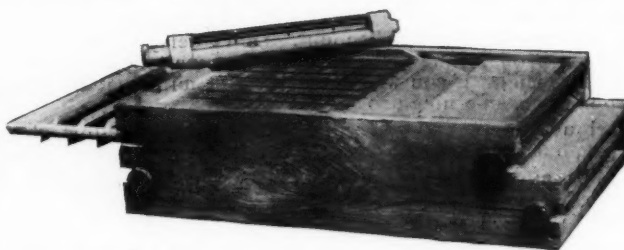
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We are beginning now to replenish our stocks. We shall have carload orders coming from the factory very often for the next few weeks. Special orders placed now can have just the attention they need, both here and at the factory, and you may have your goods sent in one of our cars, thereby saving on transportation charges. Regular stock will come straight to you from our warehouse in unbroken packages, and you can put the goods together in your odd minutes, thereby saving the expense of extra help in the spring.

Our usual discounts for early orders apply again this season—six percent for cash orders sent in October, the discount diminishing one per cent per month as the season advances. These discounts mean a considerable saving, and you might as well take advantage of the highest by ordering now. No change of prices as yet has been announced, and you may, therefore order from your present catalog. If your catalog has been mislaid, write us at once and we will send another.

If your season's crop of honey is not yet disposed of, we can give you a good price and handle it promptly. Send samples of extracted and full information as to containers, flavor, quantity, price, etc. We also handle comb honey.

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